DOCUMENT RESUME

ED 321 825 JC 900 423

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TITLE Project Cooperation: Designing and Implementing Models of Outcomes Assessments for Two-Year Institutions. Report on Project Cooperation Summer Conference for Demonstration Sites (Nashville, Tennessee, July 9-11, 1989).
INSTITUTION American Association of Community and Junior Colleges, Washington, DC. National Council of Instructional Administrators.; American Coll. Testing Program, Iowa City, IA. Research Div.; National Council on Student Development, Washington, D.C.
PUB DATE Jul 89
NOTE 76p.
PUB TYPE Reports - Descriptive (141) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC04 Plus Postage.
DESCRIPTORS *College Outcomes Assessment; College Planning; College Students; Community Colleges; Conferences; *Educational Objectives; *Evaluation Methods; Evaluation Utilization; Graduate Surveys; *Group Discussion; Institutional Cooperation; *Institutional Evaluation; Meetings; Models; Program Development; Program Evaluation; Program Implementation; *Two Year Colleges

ABSTRACT

In July 1989, the members of Project Cooperation, 10 community colleges that had been invited to serve as demonstration sites for research on institutional effectiveness, were brought together for the second national colloquium on institutional effectiveness through outcomes measures. This report contains the presentations made at the colloquium and summaries of subsequent group discussions and break-out groups' reports. The first presentation was "Assessing Institutional Effectiveness," by John Harris, which focused on the evaluation of assessment instruments, selection vs. criterion testing, assessment in accreditation and self-study, assessment and the improvement of educational quality, quality improvement in a global context, the Deming Approach to quality control, inspection vs. process improvement, continuity, training, and leadership. The second presentation was "Outcomes Assessment in Action: The Northeast Missouri State University Experience," by Terry B. Smith, which covered the creation of an assessment program; value-added assessment; stages of the assessment experience (i.e., readiness, implementation, acceptance, and commitment); and eight ingredients for success (i.e., large-scale student assessment, multiple measures, faculty ownership, student acceptance, assessment at all appropriate levels, usable and understandable data, flexibility, and the use of data to improve not punish). The final presentation was "Student Assessment Practices in the Community College: Current State, Desired State, Getting There From Here," by Kay McClenney. McClenney provided a brief overview of the current status of assessment in community colleges, propositions regarding desired future characteristics and directions for assessment programs, and key considerations in the development and implementation of assessment programs on local campuses. Lists of participants and their institutions, and of discussion group members are appended. (JMC)

PROJECT COOPERATION

ED321825

Designing and Implementing Models of Outcomes Assessment for Two-Year Institutions

Dr. Susan Cooper Cowart
Research Associate
Research Division
ACT
January 1990

Report on Project Cooperation
Summer Conference for
Demonstration Sites
Nashville, Tennessee
July 9-11, 1989

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ACKNOWLEDGEMENTS

The 1989 summer conference was truly a cooperative project. Major thanks go the participants who stayed "on task" and kept their good humor. This was a busy conference, and these participants made significant progress toward developing the research design for implementing their demonstration site model on their campus. For each group discussion, someone served as the recorder/reporter. I regret that some of the notes have no name associated with them. Special thanks to those named and unnamed who took this responsibility. The group reports contain valuable material that will save many, many hours for readers at institutions where the process is just beginning.

The three presenters were also very giving of their time and expertise during their periods of stay with the conference. We were fortunate to have three presentations by experts on various aspects of student assessment and institutional effectiveness who are also outstanding people. I very much appreciate the cooperation each extended during the planning period, during the conference, and during the preparation of this report.

Donna Appleglise of ACT's Educational Services Division transcribed a taped recording of John Harris' presentation, and Ken Kekke of the publications department edited it for printing. Donna also typed the discussion groups' highlights and reports, some of which were on transparencies, some of which were on large flip charts, and all of which were handwritten.

I have attempted to reconstruct the reports and events of the conference with accuracy. I have no doubt that I have misinterpreted some of the notes from group discussions and reports to the conference as a whole. Readers who were participants at the conference will not be surprised by this shortcoming, but I do hope they will find that the fundamental ideas and opinions shared in group discussions are here, in tact.

Dr. Susan Cooper Cowart
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ACT
January 1990

PREFACE

The second national colloquium on institutional effectiveness through outcome measures was held July 9–11, 1989, in Nashville, Tennessee. Unlike the first colloquium held in 1988 in Columbia, Maryland, this meeting limited participation to member colleges of Project Cooperation and representatives of partner councils of AACJC and other specific councils of AACJC. This monograph describes that meeting.

But, first, some history is in order. The National Council on Student Development (NCSD), a council of AACJC, holds an annual summer colloquium to address issues relevant to student development professionals in two year colleges. The colloquium had been held with sponsorship from American College Testing (ACT). In 1987 the National Council of Instructional Administrators (NCIA), a council of AACJC, was charged by the AACJC to prepare a position paper on institutional effectiveness through outcome measures (originally titled "value-added education"). Under the leadership of Carol Viola, then NCIA president, NCIA began work in this area.

Viola appointed Wayne Giles to develop research on the topic, and he enlisted the aid of ACT. Early on, the benefit of instructional and student development professionals working together was evident. Because ACT was already working to support some of the NCSD activities, the partnership was natural, and Project Cooperation was born. The project continued under the leadership of NCIA president Roland Chapdelaine, and NCSD president Walter Bumpus.

Several activities were initiated. Most notable was a national survey conducted by ACT, NCIA, and NCSD of the 1200 junior, technical, and community colleges in AACJC to determine the current state of assessment in community colleges. A preliminary report of that survey was presented at the 1989 AACJC Annual Convention, and the final report will be distributed nationally before the 1990 Convention.

Other activities included a series of regional workshops on assessment sponsored by ACT, NCIA and NCSD. As small working conferences, these workshops allowed teams to investigate assessment and develop plans useful to their colleges.

Meanwhile, Project Cooperation invited 10 community colleges nationwide to participate in the project as demonstration sites. Each college would commit to at least three years of involvement, select a research design (choices included longitudinal "value-added" models or predictive models), and use ACT instruments

in their research. Participating colleges were also to develop supplemental research projects and to use participation in the project to develop and implement their own outcome measures of institutional effectiveness, tailored to their specific needs.

As the current NCIA president, I am pleased to present this report of the second Project Cooperation Summer Conference. This conference in Nashville was cosponsored by NCIA, NCSD, and ACT.

The 1989 conference was specifically designed as a working meeting for Project Cooperation model sites. Each site team worked together to generate plans and refine their research model. In addition, it was a time for site representatives to get acquainted, to encourage later contacts, to share success, and seek solutions to problems.

The conference was an important first step, a kick-off, for model sites participating in Project Cooperation. Through the information presented by the speakers, the sharing of resources among participants, and the time away from daily tasks for instructional teams, the projects came into focus and working plans were developed.

Assessment of institutional measures of effectiveness has become a major issue for community colleges nationally. Assessment is no longer seen as merely the current education fad, as this year's buzz word. Most educators recognize that assessment can be an important part of their planning and development, of assuring their students, their constituents, and themselves of quality in their institution. Whether mandated by political bodies or recognized as part of any institution's quality assurance, assessment can lead to many positive outcomes. The critical self-examination it brings, the opportunity for faculty and staff to come together to discuss issues of quality, the examination of hard data along with qualitative research methods can present an institution a picture of itself not previously enjoyed by most institutions. Such information can indeed be powerful — powerful to legislators, to accrediting bodies, to local communities, to faculty, and, most importantly, to the students who come to our institutions seeking the best we can offer.

The partnership with ACT is a vital one. If ACT, in collaboration with community colleges, can develop and test student assessment instruments with national norms, then colleges can add these assessment tools to their own systems of measurement, thus giving them broadly based and broadly accepted indicators of success in addition to their local measures.

The community colleges participating as model sites in Project Cooperation represent the wonderful variety of this nation's community colleges: single and multi-campus, urban and rural, large and small, technical and comprehensive. These colleges are:

Chemeketa Community College
Dyersburg State Community College
Howard Community College
Macomb Community College
Massachusetts Bay Community College
Metropolitan Community Colleges of Kansas City
Midlands Technical College
Orangeburg Calhoun Technical College
Piedmont Technical College
Scottsdale Community College
St. Louis Community College District
Technical College of the LowCountry

We wish the model site participants great success and, along with their colleagues nationally, eagerly await the outcomes of their efforts.

Betty Duvall
President, NCIA
Dean of Instruction
St. Louis Community College
Florissant Valley

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INTRODUCTION

This report of the 1989 Project Cooperation Summer Conference proceedings clearly reflects the working nature of the conference. Most of the participants represented institutions that had committed, at least tentatively, to serve as demonstration sites and implement a model designed to assess student learning outcomes. Others represented one of the Project Cooperation partner councils — the National Council for Student Development (NCSD) and the National Council of Instructional Administrators (NCIA), or they represented the National Council for Research and Planning (NCRP). In any case, all participants shared a special interest in student outcomes assessment and how to use these outcomes to assess institutional effectiveness.

Each of the three people invited to address the conference is nationally renowned with regard to at least one topic central to the conference. Following the comments of each speaker, the conference participants were divided into smaller groups that met to discuss the topic and accomplish a specific task related to that topic.

Participants were grouped according to the type of institution they represented: multi-campus urban colleges, small colleges, mid-size colleges, and colleges in a "suburban-type" environment. The groupings worked out extremely well, and we came to feel that the groupings revealed common institutional concerns and interests in many areas.

John Harris, our first speaker, helped create the camaraderie and sense of "cooperative endeavors" so necessary to the success of the conference. Dr. Harris, Assistant to the Provost at Samford University, was asked to comment on assessment and institutional effectiveness. He covered a wide range of topics and introduced a fresh perspective on how organizations, institutions, and businesses behave in order to be successful. Harris' remarks and the ensuing group discussions and reports made up the first day of the conference.

Before the conference formally reconvened on the second day, participants had the opportunity of attending a continental breakfast and listening to John Roth of ACT discuss uses of ASSET. Following this optional session, Dr. Terry Smith, Dean of the College and Professor of Political Science at Northeast Missouri State University, gave the day's feature presentation on the theme of value-added assessment. After Dr. Smith's comments, conference participants again were divided into discussion groups according to their type of institution.

The optional "breakfast session" on the third and final day of the conference featured ACT's David Lutz and Lovely "Kate" Ulmer, who discussed CAAP and the various surveys available from ACT's Evaluation and Survey Services. Kay McClenney, president of MC² Educational Consultants, then made the last presentations of the conference. Dr. McClenney offered a three-part analysis of student assessment practices in community colleges: the current state, the desired state, and bridging the two.

On the final day the group sessions centered on developing a list of critical success factors. The final group activity involved two phases: in phase one the participants met, as before, according to institutional type; in phase two, these institutional groups met with their designated ACT consultant to develop a list of factors critical to the success of their implementation of an assessment process for measuring student outcomes and using these to assess institutional effectiveness.

DAY 1

ASSESSING INSTITUTIONAL EFFECTIVENESS

JOHN W. HARRIS, JR.
Assistant to the Provost, Samford University

Introduction

My informal survey of this group shows that many or most of you are involved to some degree with the following activities:

- Conduct some kind of follow-up study of graduates—not just during periods of self-study but nearly every year or every other year.
- Survey the opinions of area employers regarding your graduates that enter the work force.
- Survey students' opinions of teaching and effectiveness of institutional services.
- Evaluate student competencies, before students leave, in general education skill areas like English composition, reading, and math.
- Regularly assess the competencies of students in programs that lead directly into vocations and university transfer programs.
- Conduct follow-up evaluation of transfer students to see how they perform at the four-year institution and how quickly they move through the completion of the baccalaureate.

And I've also learned that about half of you are from states that have mandated some type of competency assessment before a student leaves your institution.

Let me share with you a number of my impressions or suspicions. For one thing, I suspect you've probably heard enough about the theory of assessment and the reasons for doing it; and I further suspect that you already have considerably more information than is, or ever could be, used or approved to initiate an assessment program.

Another impression I have is that, in general, two-year institutions—junior colleges, community colleges, and technical institutes—are more *managed* than the traditional colleges and universities; that is, on two-year campuses there is more rational and systematic management going on.

A third impression is that, though a lot more assessment data are available now than five years ago, the use of the data in institutional management has not increased substantially. For example, you might know the average exit scores of your students but not know what they consider the major difficulty on campus. Or, if you look at the students' writing skills, it might be difficult to identify the most common error. Or, even if you are able to pinpoint the most common errors in English or math, it is quite another matter to use this information to reshape curriculum or improve instruction.

In my experience, the use of assessment data to reshape and upgrade instructional programs is relatively uncommon, though two-year institutions have made some progress. And I believe the effective use of assessment data to improve the instruction in our colleges and universities is a crucial consideration.

My interest in assessment goes back a long way. I first became interested in assessment because I thought we could not systematically, rationally, and pragmatically improve teaching until we knew exactly what students were *actually* doing instead of what we *thought* they were doing or what they were *expected* to do.

So my dream has been to try to find ways to use assessment—whether teacher-made, outside, or whatever kind—to give us information on how to improve instruction. And, though I hate to admit it, I feel that we're a long way from accomplishing that dream—even in the community colleges, which seem to me the most focused of our institutions in meeting the continuing education and technical instruction needs of the communities they serve.

Evaluating Assessment Instruments

Now I'd like to touch on what I consider some of the most important elements of an effective assessment program. A very basic component of any assessment program is a sound and systematic way to analyze tests. The two-dimensional matrix I have shared with you is a simple but effective way of doing that. If, for example, you are interested in doing an across-the-college assessment of students' knowledge of history, I strongly urge you first to order a sample copy of the test and subject it to a thorough item analysis. This basic matrix system allows you to analyze the test items in terms of content (by columns) and of mental functioning (by rows).

Also, it is very important to analyze test items against curricular expectations, to ensure that you are not selecting test items that are not typically covered in the curriculum for that subject area. The little book by Morris and Fitz-Gibbon, listed

in the section on test selection, is a good resource on how to systematically evaluate a test in terms of course objectives. For those of you involved in helping faculty select tests to go with particular courses, it is an invaluable tool. I also recommend Gronlund's *Constructing Achievement Tests.*

Selection vs. Criterion Testing

There is an important distinction in assessment that even people with a background in testing do not always consider—the difference between a *selection* test and a *criterion* test. A very basic dilemma can arise if you use a test designed for selection to measure outcomes achievement. If you use test items that everybody gets either right or wrong, traditional test theory dictates that you throw them out because they fail to discriminate. The purpose of a selection test is to discriminate among individuals according to how they score on the test. So if you have items that everybody gets either right or wrong, those items clearly do not discriminate. According to this theory, the best item is one that 50 percent get right and 50 percent get wrong. Yet it is possible that, given excellent instruction and a large number of bright students, a very large number of students could give correct answers to sound items that are measuring what they actually learned.

If you continue to reject items that everybody—or almost everybody—gets right, and at the same time your dean is demanding outcomes assessment, then you can very easily put yourself in a no-win situation.

Let me introduce a key term. When we select test items that focus on creating maximum discrimination among individuals, we are not selecting items that are *treatment sensitive.* The following example illustrates an application of the term.

Suppose you're teaching a math fundamentals course effectively and applying the latest techniques, while I'm teaching the same course in the old way and not doing a very good job at it. Suppose also that we're both using the same test; we both must throw out essentially all the items except those that roughly 50 percent of the students get right. As a result, the students that emerge as the most skilled, regardless of teaching, are those with the most native ability or intelligence, because basically we're throwing out the effects of instruction.

Almost all the research on outcomes of education indicates that there is no significant difference in the method of teaching used. How can this finding—which sounds absurd—be possible? The answer is simple: Though very different teaching methods with very different degrees of effectiveness are in use, the tests developed

by our national testing organizations, which are constructed on the basis of selection, do not reflect or measure the effects of instruction. This happens because the tests keep the items that create maximum discrimination and reject those items that fail to discriminate.

Let's develop this notion a little further. Testing began in this country as a means of selecting out of a large pool the most capable individuals (the old Army Alpha test, for example). The basic goal of all tests has been to create maximum discrimination or a normal curve distribution in terms of verbal ability and quantitative ability. The normal curve of distribution—or bell curve—is created by including primarily test items that approximately half the test takers get wrong.

After general ability tests, achievement tests were developed using the same item selection criteria. Again, if a large group is well taught and as a group scores well on a test, those items must be thrown out. What we need are tests that tell us what's working and what's not working in our instructional programs, so we can make the necessary changes. But what the existing tests tell us is who's smart and who's dumb—not who learned the most and who the least from a given course.

In contrast, the *treatment-sensitive* approach to test item selection works this way. Suppose you're teaching a math course to a class of relatively unprepared students, and you teach modules one and three very well. You give all students a test before you start the course and the same test after the course is over. The items that discriminate between those who did not know at the beginning but do now are the ones you keep; they reflect the effect of instruction. Conversely, if the performance on an item by the group as a whole is the same before and after the course, then obviously it is not treatment-sensitive and a poor discriminator.

I urge you to read as much as possible about the difference between tests that are designed to select people and tests that are designed to identify people's acquisition of a body of knowledge. It is crucial to realize that American testing has essentially focused on ranking people against each other rather than comparing people to the proportion of a body of knowledge they know.

Assessment in Accreditation and Self-Study

At present I chair the National Advisory Committee for the Secretary of Education. Every accrediting body in the United States that wishes to be recognized by the Secretary must come before this committee—after undergoing intensive staff analysis—every five years. It used to be that the focus of the accreditation review

was such resources as number of Ph.D.'s, number and type of books in the library, and range of instructional resources. It was a resource-driven model; we assumed that if the above things were in place, good things would come out at the end.

I assume you all know that a number of studies have convincingly shown that there is virtually no correlation between measured resources and measured outcomes. What we on the National Advisory Committee are trying to do is steer accrediting bodies toward dealing with the institutions and programs they represent so that the self-studies will contain documentation that institutions have examined student outcomes and the implications of those outcomes for program modification. We want to encourage them to use assessment as a feedback tool for implementing ongoing improvement.

That pressure is likely to continue. Last week I met with the heads of the accrediting bodies of the American Medical Association. Both the medical school accreditor and the AMA accreditor said they have relied heavily on outcome measures for years. Increasingly, accrediting bodies are coming before us with solid evidence that they are looking closely at outcomes. The trend is spreading and here to stay.

What will be expected of institutional self-study in the years ahead appears quite clear. If you are involved with assessment in a community college or technical institute, most likely the accrediting body will concentrate on and ask you to complete the section that relates to institutional effectiveness. The self-study model we recommend involves five elements: (1) A relatively general statement of purpose; every statement of purpose should be linked to a measurable *result*. (We prefer to use the term "result" rather than either "goal" or "objective" because there is no consensus on the distinction between the latter two.) (2) An operational statement of a desirable behavior or action that can be observed. (3) Some means of assessing or determining whether that desirable outcome is actually taking place. That is, for each student goal, how will you achieve and assess it? (4) A person who is assigned the responsibility of carrying out the assessment. (5) A description of the use of the assessment results. What is primarily involved here is actually documentation that the test results have been applied in an organized and systematic way to reshape weak areas of the curriculum.

Assessment and Quality Improvement

I would like to discuss a topic related to point five above, the use of numbers—statistics—to improve quality in an enterprise. Now we know that industries have

long been involved with a concept called *statistical process control;* Ford Motor Company, for example, has encouraged community colleges to teach this concept in connection with quality improvement. But my overall impression is that the educational community has a great deal to learn about the use of numbers to improve institutional management.

I am currently conducting a national survey to find out what institutions are doing in terms of using management strategies to improve quality. Again, initial findings indicate that community colleges are in the forefront, some specific examples being Delaware County Community College in Philadelphia, Fox Valley Community College in Wisconsin, and West Palm Beach Community College. It appears likely that you will hear a great deal more about the quality improvement approach in community colleges than in four-year colleges and universities for some time to come.

There is one basic problem with most conventional education statistics which are taken from the social sciences. The social sciences tend to take snapshots of reality that do not factor in *time.* In contrast, whenever a physical scientist measures something, she always factors time into the measurement of the physical phenomenon under study.

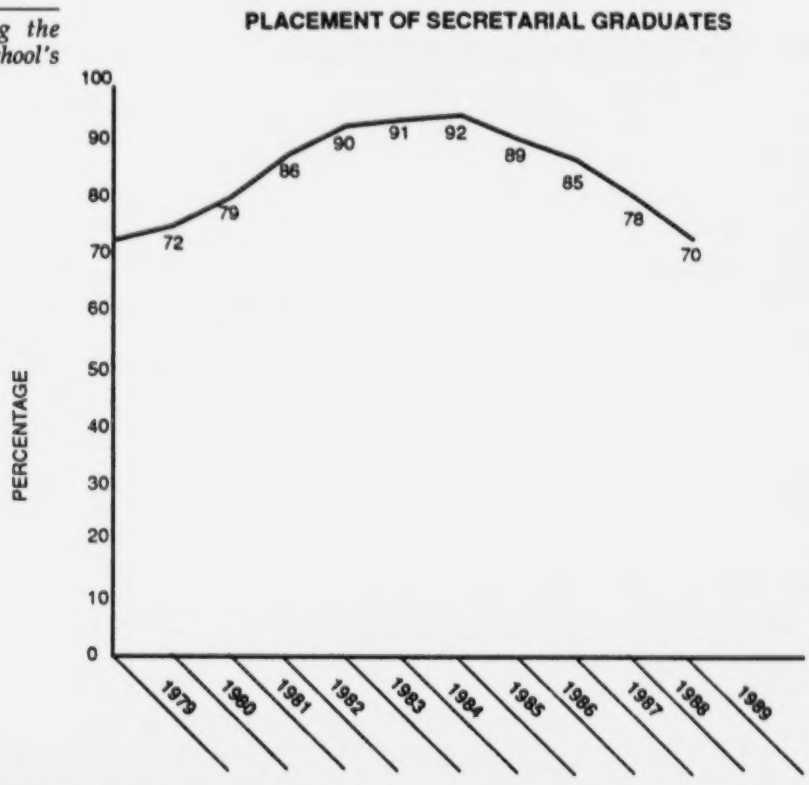
When we take a picture of a student or employer population at a given time, we tend to lay it aside and think we have discovered something. Then, at some later time, we may examine that population using a different instrument with very different questions. But it is very important that we not simply isolate and *enumerate* statistics; we must link the two statistical pictures, think about the connections and changes that have occurred. In short, we must *analyze.* Quality improvement people want to track a social or demographic event over time to see whether things are improving or deteriorating. The original measurement is important in establishing whether the general movement is up or down.

The same holds true for surveys of employer opinions. If you conduct such surveys, I recommend that you use the same instruments with the same questions repeatedly so the chief officers of your institutions can track whether local employer opinions are getting more positive or more negative. Without comparability over time, it is nearly impossible to meaningfully compare or monitor assessment results.

A lot of the statistics we have learned are very complex—parametric and nonparametric statistics that are used in advanced research. But I'm talking about using numbers for the effective management of a school. And, for this purpose, one

of the simplest and best tools is the basic *line chart*. Figure 1, for example, is a line chart that tracks the placement rates of a school's secretarial graduates over a ten-year period; the chart indicates very clearly whether the trend is up or down.

Figure 1
A line chart tracking the placement rates of a school's secretarial graduates



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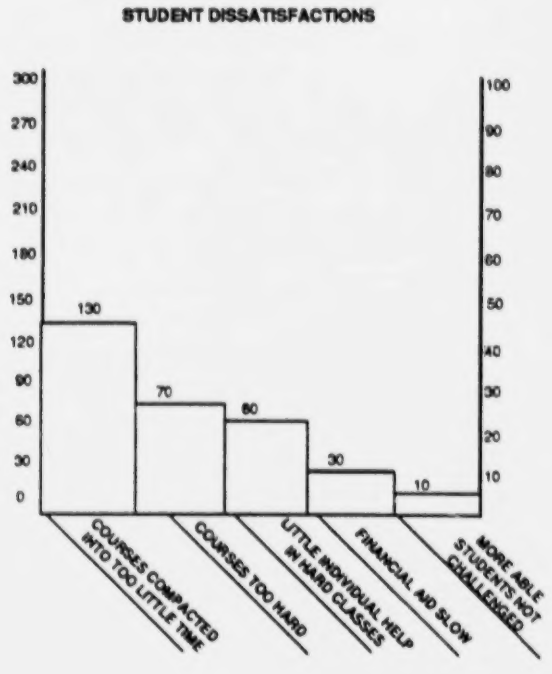
Walk through a manufacturing plant—and this holds true for many service organizations as well—and you will see charts that show what's happening to sales, to scrap, to prices—and all the information can be tracked on a continuing basis. This is not true of most colleges.

Not long ago I visited a state university with an enrollment of 10,000. I asked one basic question: "How many of the students who begin here graduate in five years?" They couldn't tell me. I was astonished. This is not the way you run a business. One of the serious problems in this country is attrition, and this school did not even know how many, let alone the reasons why people were not finishing. They lacked critical

fundamental information—retention rates. It would seem to me crucial to know that if you are in a private college and not graduating 60 percent of the students who begin there, you are below the national average, or that if 10 percent of your school's accounting graduates pass all parts of the CPA exam on the first attempt, you have a very successful program because the national average is about 3 to 4 percent.

The basic line chart is still a very effective tool for representing and tracking these statistics and trends. A second, more recent type of chart, which I first encountered while doing quality improvement work in industry, is the *Pareto chart*. Pareto was an Italian who lived before World War II, and to him we owe the 80/20 Rule: 20 percent of your students (or any group) cause 80 percent of the problems. A Pareto chart is nothing but a column chart in which you always use the total number of occurrences as the top figure for the left scale and then make that parallel to 100 percent on the right vertical scale.

Figure 2
A Pareto chart showing students' responses to a questionnaire about their dissatisfactions.



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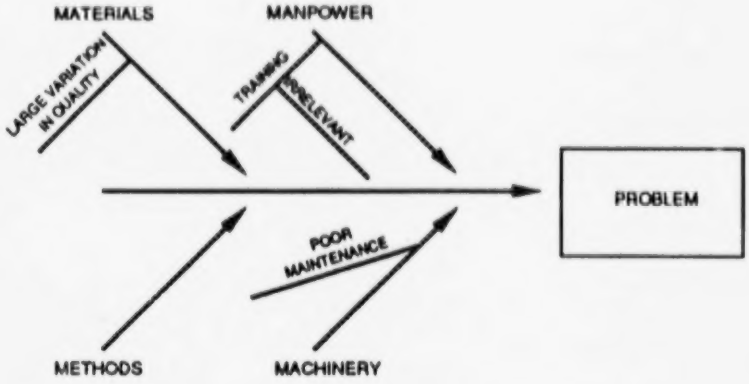
The Pareto chart in Figure 2 shows students' responses to a questionnaire about their dissatisfactions. You'll note that the most frequent response is always the leftmost column (in this case: "course compacted into too little time") with the remaining responses following in descending order from left to right. Such a chart, very easy to read and interpret, makes much more sense from a management point of view than analysis or variance tables. Though these tables might give you more statistical fine-tuning, you do not make administrative decisions on the basis of minor variations; you need the big picture.

Let me give you one example of how a simple survey can help to correct a major misperception. At another large university it was commonly believed that a large number of students were dropping out because of inadequate student aid funds. So my friend decided to do a systematic analysis of why students were not finishing. He discovered that the major reason had virtually nothing to do with student aid. Dropping out was overwhelmingly related to inadequate high school preparation. So they could have dramatically increased student aid with no likely effect on retention. The main point: it is one thing to *assume* what's making a difference and sometimes quite another to *know for sure* what's making a difference. Surveys and analytical studies enable you to find out. Devices such as line charts and Pareto charts help you depict and digest the information in an intelligible way. I am convinced that one thing we are still not very good at is arraying easily collectible data in ways that make sense, that can effect positive change. We have an overabundance of data that are not being used. Learning how to use line and Pareto charts can help change the picture.

Figure 3
A fishbone diagram for a manufacturing organization.



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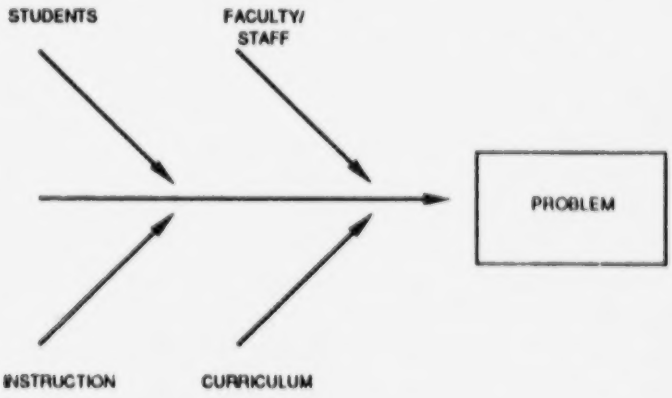
This first step in solving a problem is identifying the causes of the problem. A structured way of identifying the causes of a problem is to use the Pareto chart in combination with the *fishbone diagram*. The Pareto chart lets you see the major problem, and then you use the fishbone diagram with your work group to identify the major cause. Please look at the typical fishbone diagram in Figure 3. In using a fishbone diagram, it is important that you not let people plug their pet *solution* into the "problem" box before the problem has been identified with certainty—which is often tempting. Once the main problem has been identified, the fishbone diagram is the tool for systematically working through *all* the possible causes of a particular problem.

Let's look at an example from manufacturing; refer to Figure 3. Suppose your shop makes clamps that secure the hoses through which water passes into the various parts of your motor. A lot of the clamps are being badly made and are ending up on the scrap heap. So you draw a fishbone diagram and enter "too much scrap" in the problem box. The fish's "spine" (the horizontal line leading to the problem box) has four diagonal ribs labeled *Manpower*, *Materials*, *Machinery*, and *Methods*. Once the problem is identified, you then determine in which of the "Four Ms" the problem basically lies. The Four Ms provide a systematic procedure for quality teams to brainstorm for the most likely causes of the problem, the principal defect. If we apply this analogy to education, the counterparts would be *faculty and staff* (manpower), *students* (materials), *instruction* (methods), and *curriculum* (machinery)—as shown in Figure 4. The Pareto chart and fishbone diagram together lead you to the major cause of the problem; once you have it pinpointed you can focus on the solution.

Figure 4
A fishbone diagram applied to postsecondary education.



(SOURCE: *Quality Assurance for Private Career Schools*. J. Harris, S. Hillenmeyer, & J. V. Foran. Washington, D.C.: The Association of Independent Colleges and Schools and McGraw-Hill, 1989, p. 59. Reprinted by permission of the authors.)

Quality Improvement and the Global Picture

The game of industrial competition has become global, and the key trends and players are well known by now. The Japanese models of industrial production have been well publicized in this country. There is no shortage of examples to suggest that the Japanese know a lot more than we do about how to improve quality and increase efficiency.

When Mitsubishi came to North Carolina, they wanted all their workers to have a knowledge of the basic statistical techniques we have discussed. They had to hire American *graduate* students to achieve that. In Japan, any *high school* graduate would have that knowledge.

Several years ago an American-owned and -operated TV plant near Chicago had something on the order of 31 defects per 100 TV sets produced. A Japanese firm bought the plant, kept the same machinery, the same workers, the same supervisors, the same middle management, and put a few of their people at the top of the management ladder; in a short time they reduced the number of defects to about 6 per 100 TVs.

For an example close to home, look at the Nissan plant right here in Tennessee, which assembles trucks and cars. Tennessee workers at Nissan often meet or exceed the quality of work done by Nissan workers in Japan. It can be done in the U.S.A. General Motors is building its Spring Hill Saturn plant in Spring Hill, Tennessee. It's one of the largest industrial facilities ever built. It's a high-risk venture for GM; the fate of GM could hinge on Saturn's success. It's obvious that the world will be watching to see if the Tennessee GM plant can equal the quality of the Tennessee Nissan plant.

These examples illustrate why major industrial people and politicians in this country are seriously concerned about the position of the U.S. in the global marketplace. President Bush named the president of the Xerox Corporation to head "Quality Month"—October 1989. Corning, the insulation company, has started working with local school systems in Corning, New York, to teach basic quality concepts.

One of the discouraging things I hear is that many business people are at the point of throwing in the towel and walking away from involvement in higher education. Many of them feel they are not getting an appropriate return on their investment and have to retrain college graduates once they hire them anyway. And

they believe that a continuing major deficiency of the U.S. in the arena of international industrial competition is an ill-prepared workforce. I understand that Motorola, in an attempt to revive its fortunes, opened a plant near Chicago. They wanted to hire about 200 people with tenth-grade level skills but could only find about 60 who could meet minimal performance standards. That indicates a major deep-rooted problem.

The European market is also becoming more of a force. In 1992 twelve European nations will combine forces, and their economic strength will then be massive. The European scene is changing dramatically, and Europeans are concerned about our budget and trade deficits. One student in a class I recently taught was from Korea. She told the class that the typical Korean high school student goes to high school six days a week from 8:00 until 6:00 and studies every evening. Korean high school students don't usually date; in our country you're a social outcast if you're not dating by the time you're thirteen or fourteen.

All these examples point to an inescapable conclusion—the rest of the world is working much harder than we are on building a talented manpower base. Buddy Karelis, head of the Fund for Improvement of Postsecondary Education, asked if I could get the Europeans interested in a cross-national assessment of student achievement in higher education similar to the cross-national comparison for mathematics that was conducted at the secondary level. You may be interested in one of the findings of that study: U.S. high school students scored lower in calculus than the students of any other industrial nation except British Columbia, and calculus is *not taught* in high school in British Columbia. You may think this result is due to our large number of disadvantaged kids. But if you take the top one percent of our students and compare them with the top one percent of other countries, ours still come out behind. I don't know exactly when or how, but the industrial leadership in the U.S. is likely to do something to remedy the situation. They're either going to do it *with* us or *around* us.

There are some promising signs. U.S. Steel has turned things around and is now producing greater tonnage of steel with a fraction of the work force they had previously. Change is coming, and the name of the game is producing high-quality products at the lowest cost. If you can do that, you'll get all the resources you need. But those that are content to do business as usual are not going to make it. One thing seems clear: U.S. industries are not going to sit still while our economic resources are depleted just because we cannot get our educational act together.

As I've said, a basic problem is that we have not found the ways to take assessment data and use them to make the improvements we know should be made. Everyone in this room knows at least one program in their institution that is not achieving its purpose. It is essential that you act on that knowledge and start working immediately to turn the program around. Such action is the foundation of improving institutional quality.

The Deming Approach

I wonder if you are familiar with the name *Deming?* Douglas MacArthur arranged for Deming to teach techniques of quality control and improvement to Japanese industrialists in the late 1940s and early 1950s. He taught the Japanese basic statistical process control and participatory management practices, both of which came directly out of the United States. The irony is that the Japanese adopted these theories and put them into practice; we did not. So we have both the theory and the test technology. What we have not shown so far is the will to *use* our theory and technology to effect significant change.

Again, I don't want to give the impression that the picture is totally dark. I am very impressed, for example, with the Baldrige award for quality improvement, awarded by the Department of Commerce. The criteria for this award could be applied very effectively, I think, to our colleges and universities. Florida Power and Light is the first American company to compete for and receive the Deming Prize. And, two years ago, the same company gave a large amount of money to the University of Miami to work on the teaching of quality improvement concepts. One of the best efforts in this area is the Ford program in community colleges, whose aim is to teach quality improvement principles to their local suppliers and installations.

In his book *Out of the Crisis* Deming describes the ills of American industry and puts forth a fourteen-point plan for transforming America's production and management methods. Because Deming considers the state of American industry as very serious, his proposals are drastic and demand a fundamental change in ways of thinking and solving problems. In the handout chapter titled "The Value of Quality Assurance" I have summarized Deming's fourteen points and explained how they could be applied to a two-year college. Although my example is a proprietary school, I feel the points could be modified and applied more broadly to other types of institutions as well.

If you don't want to tackle *Out of the Crisis*, Mary Walton, a journalist, has written a very accessible book on Deming's theories called *The Deming Management Method*.

Though I leave it to you to read and think about Deming's fourteen points and how they might be applied to your institutions, I'd like to comment on Deming's first point:

> "Create constancy of purpose toward improvement of product and service, with the aim to become competitive and to stay in business, and to provide jobs." (*Out of the Crisis*, 23)

"Create constacy of purpose." Sounds basic and simple, doesn't it? Though I'm neither a business expert nor an economist, I sense that too few U.S. companies see their purpose as "staying in business and providing jobs." Rather—and this may sound cynical to you—in too many cases the aim is to stay in business just long enough for a few special shareholders to make a short-term haul, then to sell quickly and move on to another business venture.

The last time I was in Paris on special assignment, I met a native Californian who has been in business all his life. He raises venture funds in Europe. He predicts that in about two years the U.S. will experience an economic crash that will make the October 1987 "Black Monday" look mild. When I asked what would trigger the collapse, he said it would be neither the national budget deficit nor trade imbalance, but the LBOs—leveraged buyouts. He felt that the greatest threat to the health of American industry is posed by unprincipled opportunists, people who are not in business primarily to produce a quality product but to get in and out of a business with the greatest profit in the shortest time. He agreed with Deming that staying in business and providing jobs should be the primary purpose. And the key to succeeding in this purpose is *willingness to innovate.*

Now innovation does not mean mechanically adopting every nifty new trend or program that comes along. Productive innovation means figuring out exactly what your purpose is, determining to what extent you are failing to achieve that purpose, and then finding specific, practical ways of coming closer to the purpose.

Let me suggest a term that is very useful: *alignment*. What we in education desperately need is to align our practices with our statements of purpose. We are inclined to say anything in a statement of purpose—the more lofty and idealistic, the better. Then we promptly develop a curriculum that has nothing to do with the purpose.

Businesses—at least the successful businesses—don't operate that way. The new areas or activities they consider are always tied to their main purpose or mission.

They move ahead but never lose sight of the main purpose that enabled them to succeed.

Here is where assessment can play a key role. Assessment lets you know when something's not working and must be changed. I'm not referring to fundamental product research and development; I'm talking about scrutiny and analysis of the operation itself. This kind of ongoing self-examination creates a sense of constant improvement.

I suggest that we put less emphasis on MBO concepts and approaches. Start thinking instead in terms of a continual *spiral of improvement*. Another way to express it is *incremental* improvement. We are not talking about a revolution, about dismantling the college and rebuilding it according to every new theory that's advanced. We're talking about making small, common-sense changes that improve the operation day by day.

It is important to examine all the facets of the operation, especially those where you might assume that problems are not likely to exist. Registration might be such an area. Bank tellers are trained to be courteous for one simple reason—they want their customers to come back. It was reported that 31 percent of the students who left a particular community college in Kentucky did so because they were frustrated with the registration process. You can now register by telephone at several Florida universities. It is always possible to make improvements, and we are more likely to look for new approaches if we regard students as customers we would like to have return.

The basic quality assurance tools I discussed earlier can help you get started. The line chart lets you know whether it's getting better or worse, the Pareto chart helps you identify the major cause of the problem, and the fishbone diagram enables you to move in a structured way toward solutions and improvement. The gradually emerging philosophy in education centers on improvement of quality and accepting the fact that colleges, like industries, are in a competitive business. The new philosophy sees the fundamental importance of aligning purpose with practice. You take the statement of purpose or mission seriously, and if you aren't living up to it, you change the statement so your professed purpose and actual practices are congruent.

Inspection vs. Process Improvement

Deming says the most common response to declining quality is to increase the number of inspectors. The most common response in education is to increase the number of tests given; thirty-eight states now require some type of assessment.

There is little evidence to show that an increase in testing alone causes any improvement. Returning to the manufacturing example, suppose you are producing widgits and a large number of them are being returned because of defects. Your response is to hire additional quality control people who are stationed at the end of the line to weed out the defective widgits. Since this is not very exciting work, they become inconsistent in their review after not too long and begin missing all but the most obvious defects. If you rely on inspectors to improve quality, you have not done much to systematize or gain control of the quality control *process*. And, worst of all, you have not addressed the basic problem—the flaw in the production process that's causing the defects.

In thinking about institutional quality improvement, it is useful to think of a college's organizational structure as a set of interlocking processes with a customer at the end of each process. In the admissions process, for example, one major set of customers is the faculty who end up with the students. In trying to improve each process of the institution, we should strive for consistency of output, minimal variation in the output of the process.

Quality does not come from inspection but from improvement of process. All the testing instruments in the world from ETS or ACT will do no good unless their results are channeled back to the person teaching the course, unless they provide meaningful information about the effectiveness of the instructional process. Until English composition teachers can see exactly the consistent deficiencies of their students, they will not be able to make sound modifications in curriculum.

Quality improvement is a slow, continual, step-by-step process. Positive change will not occur overnight, in six months, perhaps not even in six years. Some say it takes a decade to imbed a quality improvement process into the structure and fiber of a place. You have to be willing to work with all kinds of people to make things better a little bit at a time. If you expect rapid turnaround and quick fixes, you will be constantly frustrated.

I see testing as being at a crossroads. Though the assessment movement is bigger now than it ever has been, I also sense a certain stagnation. Unless the testing

movement can be translated into institutional action and reform, it may disappear from the scene like a lot of other temporary movements or fads. The fault does not lie in the tests themselves: both ETS and ACT are producing better and better instruments, and we need them to help us understand what's taking place in education. But we need to become much better at arraying the information and using it to make sound management decisions.

One facet of sound management is building solid working relationships. Ford Motor Company is going to change its traditional reliance on multiple suppliers of steel. The argument for multiple suppliers is that the competition among them will enable you to always get your product at the lowest price. But the down side is that if a supplier knows they may be underbid and lose a contract in any given year, they will be very reluctant to sink any money into improving their product or process. So Ford has decided to try the single-supplier approach in hopes of building a better relationship, which they feel will also lead to a higher-quality product line.

Likewise, in education, we should know who our primary suppliers are and do our utmost to build strong personal relationships with them. Do you have a solid relationship with the primary high schools and agencies in your area? If a high school has sent you 80 students in the last two years, have you shared with that school information about the performance of their graduates? Have you had guidance counselors from that school visit your institution?

The point is that once you've identified your primary suppliers and come to see your school as part of many interrelated processes, you've begun to collect data. You have begun a commitment to improving product and service.

Continuity, Training, and Leadership

If it's true that we learn most from our mistakes, then I've learned a lot. One of the biggest mistakes I used to make was to go to school and try to convince them to adopt an entirely new curriculum based on the latest method I'd been involved with. It never worked. You must accept what's in place and work to improve it incrementally. Persistence and common sense are much more important than methodology.

The key is creating and building the *spirit to improve*. Once you have that, then you can move to reworking the constituent parts. Rather than starting with the goals at the president's level, you are better off to look at the specific goals of the English department, the admissions department, the placement office, and the counseling center.

Training and expertise are difficult to establish, and sometimes even harder to maintain. I learned this lesson painfully at Florida State—I call it the "Arizona State Syndrome." We had a person who had introduced a new auto-tutorial teaching approach in geology. He quickly established a national reputation for his innovative techniques and was snatched away for more money by Arizona State. Since we had no one trained in the new methods, we reverted to the old instructional methods. In essence, we had spent at least $45,000 and secured no lasting gain for our investment.

Once you have found an effective approach or program, it is critical that you implement formal, ongoing training so the expertise will not be lost. I stress *formal* training because if new teachers come on the job and pick things up from the staff in place, there is no guarantee they will adopt the *best* practices; they may simply be influenced by faculty members who have been on staff the longest. Formal training is part and parcel of ensuring that the curriculum and instructional practices of your institution align with your statement of purpose.

According to Deming, if a work force behaves in a relatively consistent way over a long period of time, management is 85 percent responsible for that behavior; no amount of preaching or pressure to change will improve things more than 15 percent. Deming contends that the main problem with American manufacturing and service industries is not lazy workers—it's poor leadership and management. This comes from a man who's now ninety and has spent a large part of his life studying and comparing the world's management systems. In essence he is saying that whatever outcomes you find in a manufacturing process, service industry, or whatever type of organization, there is a management philosophy and system that is responsible for those outcomes; to change the outcomes you have to change the system, from the top down.

Whether formally articulated or not, each institution has a teaching "system." I think the typical scenario is this: New teachers come in the first year with lots of new ideas to try, but sooner or later get worn down—if they meet resistance—and settle into doing it according to the established system. Here's a specific example to illustrate this phenomenon.

At one small school where I worked, I was interested in using a lot of audiovisual equipment. To get a VCR and a TV monitor to my classroom, I had to arrange for it every day. Then someone had to load the equipment onto a cart, roll it down the hallway of the administration building, enlist the help of another student to help lift it up five concrete steps, roll it over an asphalt driveway, take it up the steps into the

building where I was teaching, then take it down a long flight of steps into the amphitheater where I held my class—and set it up. I noticed that most of my colleagues weren't using audiovisual aids. I wonder why. This shows how the procedures of an established system can work against the best intentions of the instructional staff.

If you expect change, you must have leadership. Even though there are many fine leaders in American higher education, we must become more conscious of the importance of leadership. There are many great leaders in the community college sector, but I'm not familiar enough with the two-year scene to give specific examples without offending someone. I will mention one example from the four-year sector—Charles McClain at Northeast Missouri State.

Northeast Missouri has been written about a great deal for its innovative uses of assessment, but what I feel makes the institution outstanding is the leadership style of McClain and his associates. He really cares about his students and faculty. If you're a speech teacher and one of your students does well at a contest, you'll get a letter congratulating you on the performance of your student.

McClain keeps informed of institutional specifics and finds ways to fix specific problems. One year, for example, a survey of PE students revealed that the advising services were viewed very negatively. The PE department proposed specific solutions and received funds to implement them. Three years later the rating of advising by PE students was way up.

McClain believes in cooperation and balance between athletics and academics. When another assessment showed that Northeast Missouri PE students were below par in writing skills, the head of the PE department worked with the head of the English department to create a tailored writing skills program. If the football team is doing well on the field, McClain checks on their performance in the classroom. If the team is losing but performing well academically, the coach knows his job is secure.

Leadership determines how assessment results are used. Many faculty members are wary of assessment because they know that numbers are more often used to *get* them rather than *help* them. A common—and often justified—perception is that when administrators start talking numbers, that talk will lead to the elimination of staff.

But numbers can and should be used to improve quality, not just determine the least expensive way to operate. Deming believes that 97 percent of people want to play it straight and do it right; only 3 percent are inherently lazy.

Deming's Point Eight is: *Drive out fear.* This is a very real factor in quality improvement efforts. One fear shared by many is that the whole undertaking is hopeless from the start. Others fear that if they reveal their ideas others will steal them and use them for their own advancement.

Things cannot improve until you drive out fear. Fear inhibits communication in many ways: people who are afraid are reluctant to volunteer ideas or admit mistakes; people (or departments) who are afraid tend to stick to themselves and resist appeals for cooperating and working together.

The barrier of fear must be broken down before different fractions can trust each other and work for their common good. The classic example in colleges is of faculty and admissions people. The faculty is certain that quality would go up if only admissions would send them better students; admissions counters that faculty would go hungry if only Harvard-level students were admitted. What neither wants to accept is that, in most schools, neither the types of students admitted nor the teaching circumstances are likely to change drastically. If the two factions could communicate and cooperate, they could jointly begin to improve existing realities. But that is very difficult to achieve, and the impetus must come from the top-level leadership.

The largest impediment to establishing quality improvement programs in industry is middle management; middle managers are often resistant to new ideas and procedures. I'm sure you can think of similar pockets of resistance in your schools—department heads, perhaps, or registrars who are tied to established procedures and resent the notion of cooperation or of someone from "the outside" telling them what to do. Again, the trick is to introduce new concepts or strategies in a way that is not threatening.

Education has always been fond of fads and catch phrases. Five years ago everyone was talking about "excellence in education." Now we're caught up in "quality improvement" and "outcomes assessment." Over the years you've heard such wisdom as "don't work harder, work smarter," "do it right the first time," "don't fix it if it ain't broke," and so on. However, paying lip service to such phrases is not the same as changing things for the better.

Numbers and Results

Many schools measure the success of programs—or decide the fate of programs—on the basis of quotas. Or if a course does not attract a certain minimum number of students, it is cancelled. While use of quotas is necessary to some extent, excessive reliance on quotas can also lead to negative results. There may be a tendency to make tests too easy or to falsify results just to meet numerical requirements.

Deming thinks that imposing numerical expectations on people is counterproductive; they could produce the same result—if not better results—without the artificial quotas. He says the main reason American managers manage by numbers is that they don't understand what they're supposed to do, but theycan count. One of the most serious problems in American industry is taking college graduates and giving them responsibility for a task they have never performed. Likewise, in education we appoint administrators in areas where they have never taught. To conceal their ignorance, they fall back on quotas and say: "Give me so many of this, so many graduates in this program. I don't care how you do it, but give me x number of them." Even worse, we expect young experts in English or biology to teach well without any relevant or practical training in teaching.

It is the leader's job to *care about how,* to provide the necessary control and direction. Here's an operational definition of "leader": *one who arranges circumstances to help people and machines do their jobs better.* It's that simple—and that difficult. Your president should be arranging your circumstances so you can do your job more effectively. You should be doing the same for the people you work with. And, believe me, setting numerical goals is not the key.

The key may be instilling, encouraging, or removing barriers to pride of workmanship. I recall a Deming story about a Ford plant, where a couple of engineers found a solution to a major problem in the Escort automatic transmission—a solution that saved Ford close to a billion dollars. When asked if they had persisted in finding solution because of possible rewards or incentives, the engineers replied, "No, we did it because it was the right thing to do." Again, going back to one of Deming's points, never underestimate the inherent drive in people to do the right thing.

It is worth emphasizing this key conclusion of Deming: *most people want to do a good job.* This is not a theory or a wish of Deming's; it is a conclusion he has reached after studying a great variety of industries for several decades and consulting with some of the biggest industrial leaders in the world. What keeps people from doing

a good job in their work environment? Barriers to taking pride in their work. Unless people are given the encouragement and opportunity to do things the right way, they will eventually give in and do things according to the system.

In conclusion, it is the role of the institutional leaders to identify the factors in the working environment that keep people from taking pride in their work and to remove those barriers. Increasingly, institutional leaders are realizing that assessment, if employed thoughtfully, can play an important part in this activity. What I've tried to stress is that obtaining the results is only half the battle. Nothing of substance will happen (1) until the top leadership of your institution sees assessment *not* as an end in itself but as the first step in the quality improvement process, (2) until the leadership becomes committed to using systematic and continuous assessment as the way to find out how well the parts of the educational machine are working, (3) until the leadership understands the potential of assessment to serve as a powerful tool for more effective management.

DAY 1

GROUP DISCUSSION AND REPORTS

Groups were asked to discuss institutional effectiveness and to arrive at a definition of it. The suggestion was that each individual has a personal definition of institutional effectiveness that probably differs—at least somewhat—from that of his or her institution; similarly, each institution's definition probably has unique elements. The task was to arrive at a group definition. Since that was likely to require some negotiating, groups were asked to report on key differences and to reflect on how they arrived at their group definition.

At least one concept or "definition" of institutional effectiveness appeared in each group's report: the accomplishment of goals or fulfillment of purpose and mission. Group discussions tended to focus on the question of whose purposes or goals *must* be accomplished or given the highest priority.

"Suburban" Institutions

The first report back to the conference was by Roger Van Winkle, President of Massachusetts Bay Community College and a member of the "suburban" college group. The members of Roger's group decided that institutional effectiveness could be defined from the perspective of either institutions or students, but the definitions would share major elements. The following ideas represent this group's consensus of what institutional effectiveness means from the *institutional* perspective:

1. Students accomplish the goals they set for themselves or, with the help of the institution, they revise their goals and accomplish the new goals.
2. The institution must provide the environment and appropriate support for both students and faculty to be successful and effective. In lieu of that, the institution must facilitate the faculty in remaining up-to-date or current in their respective disciplines.
3. The institution must be doing what it says it is doing.
4. The curriculum of the institution must be relevant to the community served.
5. There is a certain vigor or esprit de corps at the institution.

Students, in the view of this group, would define institutional effectiveness the same as the college. This group felt, however, that the following aspects of institutional effectiveness would be especially important to a student:

1. Job preparedness
2. Transfer preparation and success
3. Does the college provide help when it is needed? Is positive personal treatment the norm?
4. Convenience of attendance and of the standard operating procedures of the college. For example, how well does the schedule fit with the student's family and job?
5. Can the institution meet both social and academic needs for the student?
6. What is the "comfort level" for students—particularly for minority students, night-class students, part-time working students, and so forth? What type of "bonding" takes place so that the student can develop a sense of identity with the institution?

Some of the general topics discussed in arriving at these key points are as follows:

1. How do students set and meet goals?
2. The institution may encounter conflicts and contradictions in the process of attempting to provide an environment and atmosphere conducive to student success. For example, registration by telephone is easier and more convenient for the student, but it entails a loss of personal contact.
3. It is difficult for the institution to gauge its effectiveness through student behavior. For example, earning credits may be more important to the student than earning an actual degree because many transfer earlier or come for some reason other than a degree. You cannot determine whether the institution is effective unless you can determine what the actual goals of the students are, and that may be difficult. The idea of asking for student goals on the application form seems good, but students do not always seem to understand what kind of information is needed or wanted when filling out applications and registration forms.
4. Do we train for now or for the future? Skills change and needs change. How do we teach coping skills so that our students can be prepared for the future?

Small Institutions

Nancy Coleman, the Director of Assessment at Orangeburg-Calhoun Technical College, served as the reporter for this group. Some of the colleges in this group are already extensively involved in using student outcomes measures to assess institutional effectiveness. This group had two definitions of institutional effectiveness to share:

1. How well you do what you say you are going to do.
   (This is the John Roueche definition.)
2. Comparing institutional performance to institutional goals.

In discussing definition #1, the participants realized that what you say you are going to do and how well you do it can be tied to the size of the institution and the level of its resources. Fixed costs make up a larger percentage of the total costs of smaller institutions, and coming up with money to implement an assessment of institutional effectiveness may be difficult. In addition, larger institutions have larger pools of human resources and generally more expertise to draw upon.

Definition #2 brings up the importance of a mission statement. A good mission statement is focused and explicitly describes what you want to do—what you want to measure. The mission statement must guide the assessment process.

Institutional effectiveness must be measured over a period of time. A feedback of information gathered in this process is essential to improvement for the institution. There must be broad participation in the process.

To measure institutional effectiveness, an assessment process is needed that spreads throughout the institution. Institutional effectiveness must be viewed first, as a whole; then the targets (subsets of the whole) of that effectiveness can be explored. Targets include (1) student success, (2) the community effect, (3) fiscal policies, and (4) the demographic profile.

Discussion of definition #2 led to the conclusion that comparing the performance to the goals or purposes of the institution cannot really be done unless the demographic profile of the service area is taken into account—where students are, what kind of students are there, where they go, and so forth.

It is important to remember that all students have potential for success. Student success is defined in terms of salary and the impact on future salary levels, job opportunities, and a sense of having been made to be a better (more capable) person on completion. We can add to student success if we know why students come (their goals). We must let them make plans to achieve their goals, but we can be proactive as well. We must get quantitative information through assessments, and we must share this information wildely.

Group discussion ended on the question of how well the institution communicates its goals, purposes, or mission to the community. Whether definition #1 or definition

#2 is used, it is important to communicate to the community what you plan to do—your goals, mission, or purposes.

Mid-sized Institutions

Sandi Oliver, Director of Admissions at Midlands Technical College, served as recorder for this group, and Tom Gill of Chemeketa Community College presented the report to the conference. This group was impressed by the concept of "aligning" activities and purposes that John Harris suggested. Their first point in defining institutional effectiveness is the alignment of activities with purposes. But that presupposes a clear purpose and the ability to define that purpose clearly. When reporting to the conference, Tom stressed first that their definition is *perhaps* that institutional effectiveness is doing what the institution intends to do. Another point that he included from their discussion is "progressive realization of the need to improve." That progression is "fueled by a blend of internal and external forces such as external mandates, public images of the mission of the institution, values of the institution, student goals and potentials, faculty, and resources. "Effective institutions do something about their realizations and *adjust*."

A review of the points recorded by Sandi provides insight into how the group discussion evolved and how they moved from the alignment concept to a more complex definition.

1. Align activities with purpose. (Presupposes a clear idea.)
2. Must be able to define the purposes.
3. Align activities, per se.
4. When students can, with their abilities and educational goals, use the resources of the institution to achieve the desired goals (and achieve their potential).
5. When students use a service and get back from that service what is desired or required. (This is a consumer-oriented definition. Is there a need for a college to provide more than a consumer function to meet the student's definition of effectiveness?)
6. When the faculty get what they desire/require from the system.
7. The link to the institutional mission must be specified. This requires the following:
   a. Identify the mission.
   b. Identify the components of the mission and the goals of the institution that contribute to the mission.

c. Assess and evaluate the extent to which the mission is achieved.
d. Use the results to make improvements; there must be a continuous process of planning and evaluation.

8. When the institution expands the options from which students can develop and achieve their potential.
9. When there is a commonly shared sense of belonging.
10. It is necessary to use both quantitative and qualitative measures to assess effectiveness.
11. The factors that contribute to institutional effectiveness must be defined to determine how effective the college has been at achieving its mission. The critical success factors must be identified, and/or the values that contribute to the mission must be identified and defined (operationalized) so that it is possible to assess the extent to which these factors are being achieved.
12. Institutional effectiveness is a blend of critical success factors and values; it is necessary to integrate a variety of variables and measures to determine if effectiveness is the goal.
13. What does it mean to "achieve the institutional mission"? Do we think of achievement of mission as continuous improvement in general *or* do we think of it in more specific terms such as the identification of a targeted goal and determining through measurement that it has been met?
14. There is an important distinction between continual improvement and improvement of a specific amount in a specific time.
15. Institutional effectiveness implies the progressive realization of the success of predetermined goals.
16. A measure or assessment of institutional effectiveness involves a blend between internal goals and external impositions.

Urban Multi-campus Institutions

Last to report back to the conference on their discussion of a definition of institutional effectiveness were the representatives of larger, urban institutions with more than one campus. The reporter for this group was Betty Pollard from St. Louis Community Colleges. This group also drew from some of the concepts presented by John Harris. Again, the notes from the group's discussion indicate that in trying to arrive at a definition or some necessary components of a definition of institutional effectiveness, the group had to struggle with defining more terms and concepts.

The key to defining institutional effectiveness is to define it in terms of the mission and purpose of the institution. This involves the following:

1. Mating purpose with performance.
2. Aligning purpose with performance.
3. Utilizing resources in the best way to promote efficiency as well as effectiveness.
4. Meeting community expectations. The "80–20 rule" must apply, i.e. the purpose must be met 80 percent of the time.
5. Having a way for institutions to impact students cognitively and affectively.

In defining institutional effectiveness in relation to institutional purpose, we must address the following:

a. Who shapes the purpose?
b. Whose purpose is it? The institution's? The student's? That of business and industry?
c. There are local as well as national interests to be served and met.

DAY 2

OUTCOMES ASSESSMENT IN ACTION: THE NORTHEAST MISSOURI STATE UNIVERSITY EXPERIENCE

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Introduction

Why do we assess students? Assessment involves both students and faculty in learning outcomes, raises proper questions about the curriculum, and promotes reflection on teaching methods. It enhances academic achievement, stimulates student satisfaction, provides an environment for long range planning, and facilitates program review. Most importantly, and the reason why assessment should be entered into in the first place, assessment measurably increases learning.

Creating an Assessment Program

There are six steps to building an assessment program. First, design a theoretical construct or a model. It can have the appearance of a flow chart, which conceptualizes data items, identifies level of analysis, focuses on the purposes of the assessment model and links assessment activities with desired outcomes.

Second, utilize all data already available. On most campuses archival data on demography, student ability levels, student achievement levels, and student surveys exist, probably scattered among several offices. Data can be analyzed on a school-wide basis, on a discipline basis, on a major basis, and even on the individual student basis for advisement purposes.

Third, collect the desired data elements and assemble them in a manner easily communicated. Fourth, analyze the data by organizational units of the institution. They can be reviewed on a macro (school-wide) level all the way to the micro (individual student), and the schools and departments in between.

Fifth, provide access to the data to all levels of the school. The data are better presented raw with suggestions on how to analyze it. Pre-analyzed data are often seen as "cooked." Sixth, provide longitudinal data for comparison of each unit against itself. Several years of data become astonishingly revealing.

Finally, focus the attention on learning. Data collected support the learning process, raise instructional and learning questions, identify areas to be strengthened, and reward achievement and achievers. Important learning outcomes include: general education objectives, satisfaction with instruction, levels of scholastic achievement, and academic persistence. Non-academic objectives include: placement, leadership, professional, further education, personal, and employer satisfaction.

The likelihood of successfully reaching goals is increased by, first, translating the goals into measurable outcomes, then selecting means of assessment that reflect the institution's distinctive mission, goals, and objectives. Next, identify the points of assessment that best reflect the achievement of goals, then use multiple measures to strengthen the validity of assessment (triangulation). Finally, collect data and analyze these data with the goal of improving the teaching and learning of students, then plan strategies for improvement in various sectors.

Value Added Assessment at Two-Year Institutions

Value-Added assessment is referred to by Alexander Astin as "Talent Development." He asserts that value-added outcomes assessment is an ideal student and academic development tool for institutions with student bodies of great diversity, including large groups of students ill-prepared for post-secondary work. Northeast has affirmed Astin's assertion, finding that, while everyone shows "value-added" on the pre/post ACT testing between the freshman and sophomore year, the students in the lowest quartile of entering ACT show the most growth in ACT score.

The real value, however, of value-added outcomes assessment rests with the use of data for specific program improvement. Northeast Missouri State began its Value-Added program in 1973 with voluntary sophomore testing. The program was not well enough developed until the late seventies to begin utilizing the data for specific program development and improvement. In 1979 the university had sufficient data on returning sophomores who had also taken the ACT as their freshman entrance exam to make meaningful comparisons on the four subject areas tested by the ACT. Northeast found, most interestingly, that during two of the first three years of the 1979–82 period that there was an actual decline in the math section of the sophomore ACT when compared with the freshman test for the same students. During the same period student surveys showed a low rating of the student ability to understand mathematics. In addition, quantitative scores on senior tests were weak.

When faculty reviewed these findings they focused on learning inputs and outcomes, created several hypotheses about the score declines, tested them, and directed their efforts toward the "value-subtracted" problem. Faculty began discussing requiring higher mathematic skills across campus. Further, they began examining the quality of instruction and grading standards in math classes.

A fundamental curriculum revision occurred. The mathematics requirement of general education was increased from a contemporary math course ("math appreciation") to college algebra. Calculus was required for in business administration and accounting majors. A no-credit math lab was introduced that students had to pass before taking college algebra.

Students were advised into the stronger math sequence and the changes were monitored and the results were shared generally across campus. In 1982 ACT sophomore scores began to increase over freshman scores and continued to increase to the present day. Further, there was a rise in the number of surveyed students reporting better understanding of mathematics and there were fewer problems in upper division classrooms because the math foundations were stronger.

The English part of the ACT has continuously shown improvement at a higher level than any of the other components. However, while solid gains were routinely produced the university still pursued a revision of the writing philosophy. The university now practices writing across the curriculum. More faculty across campus are requiring writing. Correct writing became the norm and writing became used as a vehicle to enhance thinking.

English composition I and II changed in content emphasis to include expository, research, and organizational writing skills. The writing lab became an extension of the compositional thrust. The staff was upgraded to full-time professional staff. A proficiency exam was required that was jury-graded. Writing competency was made a graduation requirement and writing became a total university experience.

Student advisement began stressing the importance of writing skills, permitted feedback and input, and increased individual student awareness of the importance of writing. Student surveys showed increases in student satisfaction with the key liberal learning skill of writing effectively.

Similar data were collected using the ACT COMP. In the six competency areas the university realized significant gains. Crossreferencing the ACT results with the ACT COMP was another example of triangulation. Not only in subject areas but also

in liberal learning skill competencies students were realizing measurable benefits because of their freshman/sophomore general education experience.

Individual students can also be assessed and their growth can be charted with considerable accuracy. One student who recently graduated from the university showed a more than 30 percentile increase on his sophomore ACT. His percentile increase in English was more than 60 percentile. When asked about this increase he said that he had done the best he could when taking the ACT in high school and that the English composition class that he took was one of his most valuable experiences. He attributed the increased score to college instruction.

Another student who came in with a low ACT showed enormous percentile growth—more than 60 percentile on her composite score between freshman and sophomore ACT. However, because of poor advisement she was placed in classes too advanced for her entering ability level and she flunked out of school. When contacted about this, after discovery of the error, she said that she had learned a great deal but did not have adequate study skills for success in the classroom. Both her sophomore ACT and gpa confirmed this. She was readmitted, graduated two years ago, and is now a medical technician.

Stages of the Assessment Experience

The Readiness Stage

When an institution prepares for assessment its readiness can be either internally or externally motivated. If internally motivated, it has been stimulated by the school's interest in improvement, in demonstrating effectiveness, and/or in knowing more about its students. Assessment may also be desired as a result of the national mood. If readiness is externally motivated it is because of a mandate by a state legislature or governing board, or by the local board, or by constituent pressure.

Benefits are few during the readiness stage and consist largely of the discussion of shared goals and objectives. Costs, on the other hand, are many and high. Motives are questioned. There is insecurity, uncertainty, disagreement, frustration, misunderstanding, and considerable anxiety.

Time costs are also high. The discussions take time. The planning and organizing are complex and involved. Developing the model is a sophisticated and tedious process, as is collecting available data, projecting operational costs, and identifying

funding sources. Building legitimacy is perhaps the highest and most demanding cost at this time.

The Implementation Stage

When the institution gets its first bit of information the data may be internally upsetting. Data are often rejected because the tests are not considered appropriate, the surveys are considered unreliable, or the students are not believed to be taking either the tests or the survey seriously. Institutional motives are questioned. The process of assessment is questioned. Skepticism and denial of evidence occur. If faced, the information uncovered raises hard questions. The challenge is to stay with the process.

The cost/benefit ratio becomes more balanced during this stage. Benefits include raising important questions, focusing on effectiveness, stimulating the educational agenda, explicitly stating goals and purposes, and proceeding on an innovative course.

Considerable arousing of professional interest takes place at this time. Feedback is made available to faculty stimulating discussion on the curriculum. Students can begin to use available feedback to recognize the strengths and weaknesses and faculty can begin expecting increasing expectations for students.

Significant costs remain. Many of the costs in stage one are still present. Some new costs include difficulty in interpreting data, recognition of hard truths, illumination of comfortable myths, and lack of persistence and patience. Time costs include time taken to discuss data, to collect it, to build formats for its release, communicating successes, improving weaknesses, administering the instruments, and, and always, building legitimacy. There are obviously monetary costs. The test and survey instruments are not free. Administration and overhead are real expenses, as are computer time and consultant costs.

The Acceptance Stage

The faculty, administration and students accept the data. Data have been collected for several years now. Multiple measures (triangulation) corroborate findings. The data base becomes a means for faculty to institute curricular refinements and revisions. The data on academic performance crystalize expectations. Questions on improving student performance direct goals and activities of other campus offices. The data help the campus community focus on student learning. Discussion on goals and achievement increases involvement.

Improvements begin showing up as a result of changes. The longitudinal data reveal trends related to institutional mission. Benefits begin to outweigh costs. Assessment continues to raise questions but now also suggest answers. Assessment is integrated into all phases of institutional life, conveying a positive spirit to improve. All staff and faculty are motivated toward a common goal.

Assessment provides direction in planning, clarifies the mission, strengthens effectiveness, provides internal and external recognition, and rewards improvement in achievement. It promotes discussion on scholarship, influences hiring and allocation of resources decisions, and produces cost effectiveness.

The assessment process increases discussion on teaching and learning and promotes action on teaching and learning. It fosters clear thinking about the curriculum, emphasizes the learning process, and involves faculty in analysis of data. It provides direction for solutions, defines the program more clearly, and facilitates program review.

For students, assessment increases expectations, increases involvement, promotes student discussion on goals, raises confidence and achievement, and directs improvement toward the total student.

Costs remain, however. There is no quick success. Lingering concerns remain about possible misuse of data. Time is still taken up improving collegial cooperation, investigating the data, planning improvement strategies, making data available and communicating. Financial costs remain as well.

The Commitment Stage

The fourth and final stage is commitment. Costs remain. There is still time involved in planning and reassessing and in initiating innovative ideas to enhance scholarship. There are still monetary costs: instruments, administration, and overhead.

But in the commitment stage benefits overwhelmingly outweigh costs. Change becomes easier, collegiality on campus is enhanced and there is increased commitment on every level toward academic achievement. Satisfaction toward the school is improved. A more scholarly environment is created. Funding becomes performance-driven.

Built into academic programs is continuous review and revision. Faculty development increases, student-faculty interaction increases, cooperative learning improves, time on task increases, and data provided to students help direct goals.

Eight Ingredients for Success

There are eight ingredients for a successful assessment program. First, involve as many students in the institution as possible, hopefully all. Universality obviates sampling and the "guinea pig" problem and promotes more student ownership. Second, always use multiple measures. Triangulation guarantees a more sophisticated and holistic view and ameliorates concerns about oversimplification. Combining standardized tests with attitude surveys and traditional assessment devices (student course evaluations, peer reviews, anecdotes, grade point average studies, retention studies, etc.) creates a good mix.

Third, cultivate faculty ownership of assessment. Assessment will not work unless faculty support its aims and are sure they are not threatened by it. Faculty attitudes significantly affect student attitudes about assessment. Fourth, sell assessment to students both at the recruitment and enrolled stages. Students who come to the institution knowledgeable about its assessment program and goals will be more cooperative.

Further, it is vital to provide optimal conditions for assessment activities and to attend to student concerns about the process in order to maximize student performance on assessment instruments.

Fifth, assess students, programs and institution. In other words, assess for all appropriate levels and never assess inappropriately; i.e., never collect data that can isolate individual faculty, even though it may be technically possible to do so.

Sixth, make data and analyses understandable. Key constituencies will be suspicious of esoteric or technical reports of assessment activities. An advantage of "Value Added" assessment is the amenability of its data to basic "plus/minus/zero" array. Either an individual student "adds value," or she doesn't. Either groups of students show better math skills after two years in school, or they don't. Either students feel more satisfied about faculty advising this year than they did last, or they don't.

Seventh, be flexible. If one instrument no longer serves your assessment needs, scrap it. Be vigilant for new instruments. The testing companies are getting serious

about Value-Added instruments (ETS's Academic Profile, ACT's CAAP and COMP). Encourage faculty experimentation. Finally, use data to improve, not to punish. A quick way to kill an assessment program is to use results negatively for promotion, tenure, and budget decisions.

Conclusion

Assessment is no longer experimental or *avant-garde*. It just IS and it has made a measurable difference at institutions like Northeast Missouri State that have been doing outcomes assessment for awhile.

The common denominators of these schools are that they wanted to know what was REALLY happening in their classrooms and labs and libraries and faculty offices, persuaded the faculty and students that the quest was important, and stuck with it long enough that assessment eventually became not an end in itself but simply another vital means of achieving quality education.

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DAY 2

GROUP DISCUSSION AND REPORTS

Conference participants were again asked to form discussion groups according to the type of institution they represented: small, mid-sized, suburban, or urban multi-campus. The objective of the task this time was to define *value-added assessment*. Participants were urged to focus on what value-added assessment means, how to do it, what issues are involved, how hindrances or problems with doing value-added assessment may be overcome, and how value-added assessment should be used.

All the groups shared common themes: the difficulty in isolating or differentiating the impact of the institution (value-added) from other contributing factors; the costs, not just financial, involved in carrying out this type of assessment; logistical problems relating to tracking students to have a follow-up assessment, and especially how these problems will differ from those of four-year institutions; getting students to participate and to perform so that the results serve as a valid indicator of change; and generating enough interest and commitment on campus to implement this type of assessment.

Urban Multi-campus Institutions

Representatives of these institutions were immediately concerned with the terminology. Barbara Keener, Dean of Academic Affairs and Community College Relations at the University of Florida and representing NCSD as the secretary of the council, served as the reporter for this session. She noted that the first concern was with the use of "value-added" as a noun rather than as an adjective.

This group was more comfortable with the concept of "talent development" than with "value-added." "Talent development" seems to avoid the *economic* overtones suggested by "value-added" and does not carry the possible negative connotations of "value subtracted." In either case, the emphasis is on what the institution does for the student, an emphasis that requires one to examine the balance of other impacts on the student's life in order to sort out the specific impact of the institution.

A concern of the group was with communications, or the lack thereof, between administrative and instructional staff with respect to the role of the college. They questioned how administrators and faculty can talk to each other, what "language" should be used or concepts should be borrowed to facilitate communication?

Another concern regarding the role of the faculty was with how individual faculty functions correlate with assessment: What happens in the classroom that directly relates to test results? It is important to understand what is being produced when conducting an assessment of this type (value-added or talent development). One must deal with specifics.

Some of the benefits of this type of assessment include:

a. Student preparedness
b. Documentation that provides self-satisfaction
c. Marketing the institution's impact
d. Concrete evidence of an impact
e. Formative evaluation—it provides the opportunity to talk with the students *before* they finish, to give feedback along the way, and help them improve over time. This points to the differences between program development and student development.
f. Helps identify patterns and trends
g. Facilitates greater communication on why you are doing what you are doing

The following problems or obstacles were identified:

1. Costs—both in dollars and time. Also, there are emotional costs, such as fear and development of trust, to take into account.
2. Accurate tracking. Accrediting agencies impose mandates; and there are other requirements, such as state funding formulae, that must be considered—in addition to developing a tracking procedure appropriate to this type of assessment.
3. Responsibility for activation of implementation—who can do it?

- A successful value added/talent development assessment program requires faculty support, involvement, and commitment.
- Student participation and commitment are also "musts."
- The support of the president or chief executive officer is critical.
- The computer services area must be committed.
- Expertise in the use of the research is needed

"Mid-sized" Institutions

Delinda Cannon, Director of Planning and Administration at Midlands Technical College, served as the reporter for this session. The major focus of this group was to isolate the problems and challenges for two-year institutions and to discuss which components of the value-added concept are unique to the community/technical/junior college setting. The problems and challenges are outlined here.

1. Cohorts/change/retention. Discussion first revolved around the fact that the student population for many two-year institutions is rather fluid. Value-added assessment is made more difficult because of the need to identify a cohort of large enough size to lend research support.
2. Motivation to test, especially post-test. It is not as easy to get students to test when they are finishing their program with you.
3. Identification of core courses that students must have taken. If growth or value-added is to be attributed to the institution, then it must be possible to identify courses that serve as the core curriculum.
4. Open-door admissions, entry-level diversity of skills, backgrounds, and so forth. This point relates to point #1 and to the way value added is to be measured.
5. Breadth of community college missions. How well does value-added assessment contribute to the broad range of missions?
6. Resources. Who will pay?
7. Indirect costs. One must take into account the use of staff resources to administer tests and follow-up.
8. Acceptance of the assessment procedure. The planning stages and strategies may be more complex, but acceptance may be easier to achieve in a two-year college.
9. Timing of exit assessment. It will be difficult to know when to administer an "exit" assessment. This relates to the retention issue already identified and also to the core curriculum issue.
10. Difficulty of measuring "quality of life" gains in two years.
11. Confounding effects of intervening life experience factors.
12. Will assessment be around in 10 years? Yes, because:
    a. living standards are increasingly based on quality.
    b. global influences force us into competition with an increasingly sophisticated global society.
13. Can we let the marketplace determine our survival? We have political realities to deal with; one is that public institutions are not solely supported by the local community in which they are located.

"Suburban" Institutions

The representatives of suburban institutions adopted a strategy remarkably similar to that of the midsized schools just reported. This report identifies the concerns of the group regarding value-added assessment and strategies that have the potential to resolve some of the concerns and issues. This group started discussion by questioning how value-added assessment will work on two-year college campuses, compared to the experiences of four-year colleges.

Concerns identified include:

1. Retention/persistence—having students around at the end to test: How do you judge when general education requirements have been fulfilled?
2. Part-time students: Can you really attribute value-added to their interaction with the institution?
3. Multiple campus enrollments: How do you attribute value-added to the institution when the student is enrolled at other colleges as well?
4. Student motivation—getting students to take the test: How do you "require" students to be test participants at exit?
5. Logistics—length of the test process, tracking students.
6. Reverse transfers—many students have previous college credits, particularly in general education areas. How do you measure value-added by a specific institution?
7. Computer capacity for tracking and storing data/performing data analyses necessary for value-added assessment.
8. Special populations such as returning learners.

Possible strategies suggested:

1. Inform ACT consultant for each demonstration site of the institutional capacity for tracking. The ACT person can serve as a resource.
2. Student motivation: requiring assessment is a possible solution. If assessment is required, it becomes an expectation on campus. Be sure students know why the assessment is being done.
3. Student persistence/retention—getting students to take the test at the "end." Retest by credit hours completed; through public relations efforts, advising information, and so forth, it will be possible to "program" the college community and student body to expect exit testing.
4. If institutions have needs for additional instruments (such as special questionnaires), they should communicate these needs to ACT consultants.

5. We cannot wait for perfect solutions, we have to get started.
6. As more information becomes available to institutions involved in this type of assessment, it will become integrated into the academic environment and standard operating procedures.

During discussion, the suggestion was made to have a student orientation or an assessment course. There is a growing national trend to do this. It means that assessment can take place, student orientation can take place, study skills can be assessed and taught, career development and planning can take place, and library/research skills can be learned.

Small Institutions

Representatives of the small institutions contributed to the whole group's thoughts of value-added assessment by concentrating much of their discussion on how the assessment will be used.

Discussion first centered on defining value-added. The group felt that an appropriate definition should treat value-added as a concept and also provide a means for operationalizing the term, i.e., for providing specific calculations to measure value-added. Institutions must determine how this information can be effectively communicated to faculty, staff, students, governing boards, and the community at large.

Just as was the case for the other three groups, this group of representatives discussed how to motivate students to take the tests and to perform to their maximum capacity on the tests.

The strategies they suggested include:

1. Make it a requirement for graduation/program completion.
2. Get faculty and advisor support.
3. Take advantage of the basically cooperative nature of students.
4. Provide a good environment for testing.

How will measurements of value-added be used in the 1990s? Here are their ideas:

1. Academic evaluations of programs and advising will emphasize improvement, not punishment.

2. Groups of students with high value-added can be studied and analyzed to determine what made the difference for them—what spells success.
3. The value-added structure will be further expanded and modified to better facilitate value-added assessment of nondegree programs.

The group discussed the fact that during the 1990s there will have been an adequate amount of time for the longitudinal studies to "bear fruit" or show results. It takes some time to work out the conceptual and operational meaning of value-added.

Finally, the group discussed the fact that how value-added assessments are used will depend on whether the results are positive or negative. Negative results might provide the basis for a campaign to get increased funding in order to address the problems and shortcomings responsible for this. Positive results, on the other hand, can be used as a public relations tool. Two-year institutions can report these positive results back to their feeder high schools and to other high schools from which they would like to attract students. Another use of positive results might involve a "guarantee" to adult learners that they will get what they came for—i.e., will get their time and money's worth.

DAY 3

STUDENT ASSESSMENT PRACTICES IN THE COMMUNITY COLLEGE: CURRENT STATE, DESIRED STATE, GETTING THERE FROM HERE

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The concept and the practice of assessment are not new to community colleges; on the contrary, the nation's community, junior, and technical colleges have for many years been involved in a variety of assessment activities. Nonetheless, there is certainly evident across the country a new rhetoric of assessment, a new urgency in discussions and debates, an accelerated pace in the development and implementation of assessment methods and programs—all attributable, at least in part, to the recent national emphasis on improved quality and accountability in higher education. In the following discussion, attention will be given to (1) a brief overview of the "current state" of assessment in the community college, (2) some propositions regarding desired future characteristics and directions for community college assessment programs, and (3) a few key considerations in the development and implementation of assessment programs on local campuses.

The Current State

From the recent plethora of reports and studies which have focused attention on American higher education, one paragraph stands out as a succinct summary of the public and professional sentiment that lies behind the current assessment "movement:"

> One of the most remarkable and scandalous aspects of American higher education is the absence of traditions, practices, and methods of institutional and social accountability. How can colleges and universities assure the American people and themselves that they are doing what they say they are doing? How does anyone know that the curriculum really "works?" There must be ways of demonstrating to state legislatures, students, and the public at large that the colleges know what they are doing (or do not know) and that they are doing it well (or poorly) (Association of American Colleges, 1985).

Surveys now indicate that almost half of the nation's public colleges and universities are operating under a state-level assessment mandate, and that percentage

is expected to increase substantially each year. The state initiatives come in many forms, including general calls for assessment, required submission of institutional assessment plans, and prescriptive mandates linked to funding. The regional accrediting associations, led by the Southern Association of Colleges and Schools, have added impetus to the movement through their newly strengthened emphasis on institutional effectiveness—with special focus on the assessment of educational outcomes.

It will come as a surprise to hardly anyone that there is both "good news" and "bad news" associated with all of this assessment activity. The bad news includes the reality that the external mandates—whether from legislatures, governing boards, state agencies, or other sources—often come with tight deadlines, limited (if any) resources for development and implementation of assessment programs, and in general, few real extrinsic incentives. Moreover, the assessment task—taken as a whole—is awesome; and members of the college community, especially in small institutions, may feel woefully inadequate. Compounding the problem is the fact that the technology and methodology of assessment are on the one hand quite overwhelming and on the other hand, still primitive. And certainly not least on the list of challenges is the level of faculty skepticism—or even downright resistance—that often greets campus assessment initiatives.

So what, then, is the good news? Here at last, cheer the proponents, is a movement that has something to do with the fundamental purposes of community colleges—the central tasks of teaching and learning. Too, following the initial years of discussion and debate, there is a perceived inevitability attributed to the assessment movement; thus, campus debates are moving quickly away form the question of *whether* assessment should be undertaken and focusing more and more productively on the question of *how* assessment can be most appropriately and usefully undertaken in a particular college with a particular mission, curriculum, and student population. In pursuit of that question, many colleges gratefully discover that the issuers of external mandates (e.g., governors, legislators, bureaucrats, etc.) are generally much more understanding and flexible than is initially assumed—and in fact welcome the development of feasible assessment models that make sense at the local level.

There is more good news, including the exciting professional activity—conversations, collaborations, consortia—that has developed around assessment issues; the demonstrable improvements in curriculum and teaching that have occurred in response to assessment findings; the simple but profound insights gained about the relationship between teaching and learning, teacher and learner.

Purposes of Assessment

Provided below is a brief and very general overview of current assessment practice in community colleges. Comments are organized in terms of five major purposes of assessment. (See Millman, 1988; McIntyre, 1988.) Those purposes are:

1. Placement—to admit, advance, and place students
2. Student learning/development—to advise, counsel, assist, and teach students
3. Certification—to confirm or assure student acquisition of certain knowledge and/or skills
4. Course and program evaluation—to evaluate and improve courses and programs; to plan and budget
5. Institutional evaluation—to demonstrate overall institutional effectiveness and accountability

Placement

Recent surveys indicate that eight out of ten community colleges are currently engaged in assessment of basic skills, primarily for the purpose of course placement. The assessment of basic skills—especially reading, writing, and mathematics—represents one of the primary assessment strengths of community colleges. Not surprisingly, given the immense diversity of their student populations, community colleges discovered very early the benefits of assessing basic skills upon college entry in order both to reduce the range of skill levels in a given classroom and to promote student success.

Despite the substantial experience and relative sophistication of community colleges in this area of assessment, there are challenges yet to be resolved. Seriously debated on many campuses (and also in the courts) is the question of whether course placement, based wholly or partially on assessment results, should be advisory or mandatory. A related concern pertains to the potential impact on minority student access to collegiate programs. And on many campuses (including senior colleges and universities), systematic placement testing may lead to a massive increase in the recognized need for remediation and a commensurate need for teachers, classrooms, and other resources for developmental education

Student Learning and Development

The Alverno College model of "assessment as learning" is perhaps the preeminent example of assessment conducted primarily to promote, evaluate, and document

the learning and development of individual students. (See, for example, Loacker, *et al*, 1986.) Though widely admired, the model is seldom fully replicated. Community college observers cite in particular the perceived problems of high cost (in terms of faculty time) and the immense diversity of community college programs, students, and learning environments. Examples of assessment as learning can be found, however, in community college programs with significant clinical or performance components (e.g., programs in allied health, performing arts, electronics, etc.).

Also noteworthy is the current interest in the improvement of classroom evaluation, which is perhaps best illustrated by K. Patricia Cross' work in promoting the concept of the "classroom researcher." (See, for example, Cross and Angelo, 1988.) Cross is valiantly attempting to return the focus of assessment to the classroom—the primary teaching-learning relationships—by equipping faculty with research and evaluation skills which will help to explicate the link between how teachers teach and what students learn.

Certification and Gatekeeping

A number of colleges across the country have led the way to describing exit competencies in courses and/or programs and then certifying student achievement of those competencies. This work, though far from universal, is very promising because it gives substantive meaning to grades and credentials. In some fields (nursing and allied health occupations, for example), licensure of certification exams have long served as the gatekeeper for admission to practice. "Rising junior" examinations (i.e., competency tests required for admission to upper division study and/or for award of the associate degree) also serve a gatekeeping or certification function. Such exams are the subject of significant controversy in states that have adopted them, primarily (but not exclusively) because of the potentially disadvantaging impact on minority student populations.

At present, very few community colleges have established explicit graduation requirements that specify competencies students must demonstrate to earn a degree. On the one hand, it could well be argued that such requirements should not be imposed until the colleges have achieved much greater clarity regarding desired educational outcomes and much greater confidence regarding assessment methodologies. On the other hand, the absence of such graduation requirements means that, by default, colleges continue to state degree requirements and award credentials on the basis of units of time *allocated* for learning, with very little emphasis on performance or competency. One significant way colleges are addressing

this issue is through the establishment of "degree warranties" which essentially guarantee that the institution will re-educate or retrain students who do not demonstrate competencies defined as requisite to their degree.

Course and Program Evaluation and Improvement

The periodic evaluation of courses and programs (especially in vocational and technical fields) has been fairly common practice in community colleges. In regard to these evaluation procedures, a question worth asking is, to what extent is the information gathered in these processes actually used to make improvements? (Or conversely, are they primarily incestuous paper processes which operate principally to preserve the status quo)? A second issue pertains to the apparent emphasis in program evaluation processes on "academic progress" and "employment" outcomes (including rates for retention, graduation, transfer, job placement, etc.). These indicators are clearly important and should be part of assessment efforts; but to date (and with a few notable exceptions), colleges have given far less attention to the direct assessment of student *learning* outcomes. An outstanding example of work in this area is provided by St. Petersburg Junior College, where the faculty has developed "end of program assessments" for every instructional program in the college. And the results of those student assessments (along with employer surveys, advisory committee evaluations, and graduation/placement/transfer rates, etc.) are used in evaluating programs.

Institutional Evaluation

Given a focus on student outcomes, this assessment category encompasses much of the survey work undertaken by community colleges, as well as those institutional statistics that may be used to describe student academic progress, employment outcomes, and overall institutional effectiveness. There exist some excellent examples of such work—models which should be more broadly shared. Survey work and manipulation of existing institutional data are in some respects the easiest and least expensive assessment devices available—and it is appropriately with this work that many institutions begin constructing their assessment programs. There are, however, many problems that still need to be addressed: poorly designed instruments, poor sampling techniques, poor return rates on surveys, difficulty obtaining cooperation from four-year institutions, inadequate staffing, and so on.

DESIRED STATE: FUTURE DIRECTIONS FOR COMMUNITY COLLEGE ASSESSMENT

The current emphasis on assessment and accountability in higher education represents both a significant challenge and a significant opportunity for community colleges. The development of a comprehensive assessment program is a conceptually and logistically challenging task—one which requires a long-term institutional commitment. Many colleges are just beginning their journey on that development path; other have gained some experience and are now blazing new trails that others may soon follow. In either case, it can only be helpful to consider in general terms where it is we are going. If assessment is to be truly appropriate, truly useful, truly matched to the community college mission—what are the issues which colleagues on campuses should address?

Asking the Right Questions

The crucial cornerstones for an assessment program are laid when the college begins by clearly defining (1) its own mission, (2) the desired outcomes of community college education, and (3) the institution's purposes in undertaking assessment. Thus, an important first step for each and every institution is to formulate and discuss seriously a number of fundamental assessment questions. For example:

Why are we assessing?
Who should be involved?
What exactly should be assessed?
How will the results be used?
What methods, procedures, instruments should be used?

A Systematic Approach

The more assessment is integrated into the ongoing life of the institution, the more effective the program will be. Very important, therefore, are efforts to ensure that the results of assessment are used systematically in institutional planning and budgeting, in program, curriculum, and instructional improvement, in designing professional development programs, in student monitoring and advisement, and in institutional policy development.

Focus on Students

Given the value placed by community colleges on "student-centered" approaches, one would hope to see increasing emphasis on those forms of assessment which are useful in promoting the learning and development of individual students. The objective should be not merely assessment *of* students but assessment *for* students and also *by* them, particularly if the capacity for self-evaluation is seen as useful in effective "lifelong learning." Perhaps more than any other type of higher education institution, the community college must concern itself with the development and use of assessment methods that truly help the student to learn.

For both ethical and legal reasons, it is also crucial that community colleges establish effective "safety nets" for students—ways to correct assessment errors, systems for applying intelligence to mere data, opportunities for reasoned judgment to override statistics. Colleges may well discover that a major result of their assessment work (witness the experience of Miami-Dade Community College) is an evolution toward more structure and fewer choices for students. Concomitantly, it may be necessary to provide additional support services, as large numbers of students struggle to meet higher, more clearly defined expectations. Finally, it is incumbent upon community college educators—out of concern for their diverse student population—to pursue assessment methods that not only avoid cultural and gender bias but even enhance (rather than constrain or deny) cultural pluralism.

Improved Teaching and Classroom Evaluation

True to their avowed role as "teaching institutions," community colleges should seek routinely to use the results of assessment to make specific improvements in teaching and learning. Further, a hallmark of the assessment movement in community colleges should be the special effort devoted to improvement of learning assessment in the classroom, the result being renewed credibility of certification (grades) at the course level. Standardized instruments may be more frequently used in classroom evaluation or as a means for periodic validation of faculty assessments. In addition (or perhaps as an alternative to standardized tests), colleges may consider using the "external examiner" approach to judging student performance. And in the future, certification and graduation increasingly will be based on performance (what students can do with what they know) rather than on knowledge alone or the mere accumulation of credit hours.

Increased Methodological Sophistication

As community colleges commit themselves to assessment programs, leaders must nurture concern for and understanding of important methodological and technical issues, including appropriate uses of standardized instruments, the reliability and validity of both commercial and locally-developed instruments, and the broader use of methodologies appropriate to field research. Certainly it is recognized that the soundest assessment programs are those which address multiple outcomes through multiple methods, in multiple timeframes. Too, community colleges should be quick to recognize the importance of building a sound and comprehensive but "economical" student data base as the cornerstone for an effective assessment program.

Qualitative Emphasis

In order to avoid "trivializing" the outcomes of community college education, it is crucial that attention be devoted to the still-embryonic area of qualitative evaluation. Here lies the opportunity for faculty and others to think seriously about some of those important but "ineffable" outcomes of higher education. What, for example, does a "responsible citizen" or a "lifelong learner" DO? How do we recognize a person who demonstrates "empathy" or "creativity" or "freedom from dogma?"

Improved Accountability

As their assessment work progresses, community colleges will hopefully identify, acknowledge, and then systematically provide those forms of information about student outcomes and institutional effectiveness which policymakers, legislators, funding agencies, and the general public have a legitimate need and right to know. At the same time, institutional leaders may be communicating to policymakers and funding agencies the need for additional resources to support design and implementation of assessment programs. And in return for that support, colleges will be able to provide demonstrable evidence of improvements made in programs and services for students as a result of assessment activities.

Enhanced Internal Climate

Many people have commented on a particular paradox in the assessment movement. One message going out to the faculty is that teaching really does matter; at the same time, though, faculty also hear the message that their traditional

classroom evaluation process may be suspect—and that those processes may be supplanted by new external evaluation methods. For the society and the educational community, it is well past time to eschew faculty-bashing as a counterproductive agenda. Expectations of faculty certainly should be high, as evidenced through selection, orientation, and evaluation procedures; but those expectations should be complemented by an emphasis on teaching as the central institutional concern and by greatly strengthened professional development programs.

For their part, faculty will overcome their initial resistance and will likely demonstrate some significantly changed attitudes and fresh insights about faculty expectations of students, about student expectations for their educational experience, about the connections between how teachers teach and what students learn, about the very definition of what it means to be a faculty member. Assessment may indeed produce significant changes in faculty role and identity. As noted by Pat Hutchings and Elaine Reuben (1988), faculty are being asked "... to do something against the grain, to talk with each other about collective standards and aggregate expectations, matters traditionally in the domain of private, professional judgement ... Lengthy, collaborative discussions about teaching and learning, discussions that set out to create a shared vision, are not what faculty learn to value in graduate school" (p. 54). In a discussion of faculty role in assessment, Paige Cubbison, history professor of Miami-Dade Community College, characterizes faculty as "extreme individualists, resistant to and downright indignant about the idea that all of them would ever do anything for the same reason at the same time" (Hutchings and Reuben, 1988, p. 54). Nonetheless, in institutions where assessment has been taken seriously, faculty members report that it is that shared vision, that coherence of effort and sense of common purpose, which ultimately make assessment an appealing and rewarding enterprise.

GETTING "THERE" FROM "HERE": CONSIDERATIONS IN DEVELOPING AN ASSESSMENT PROGRAM

While there is certainly no "cookbook" for developing the "perfect" assessment program, there are some simple but important things that have been learned from the experience of colleges across the country. In most campus environments, there are certain conditions which are essential to a successful assessment initiative and also certain preparatory steps which will help to make a challenging task more manageable.

Essential Conditions

Commitment by Top-Level Leaders. Strong, visible commitment, especially by the CEO, must be evident. Words are important, but behavior—that is, decisions made, actions taken, resources allocated—is paramount.

Extensive, Meaningful Involvement. In the absence of faculty involvement in and ownership of the assessment program, it simply will not result in improvements in curriculum and teaching.

Clear and Shared Understanding of Mission. The only meaningful basis for assessment is the mission of the institution. That mission must be clearly articulated and should include an expression of the desired outcomes of community college education.

Well-Defined Purposes for Assessment. Assessment for external accountability and assessment for internal improvement need not be mutually exclusive agendas. However, in assessment as in any other major institutional initiative, success will depend in large part on clarity of purpose.

Identification of Priorities. Most community colleges have limited resources. While it is difficult to make decisions about what things are more important than other things, it is far better in assessment to do a few things well than to falter through an unmanageable agenda.

Integration of Institutional Processes. The integration of assessment with the mainstream of institutional decision-making (e.g., with planning, budgeting, curriculum design, faculty development, etc.) is crucial to the usefulness and long-term viability of the effort.

Determination to Act, Change, Improve. And finally, there is no point in expending the requisite time, energy, and money for development of an assessment program unless there is a real commitment to *use* assessment findings in improving programs and services for students.

Preparation

To be most effective, assessment programs should be carefully tailored to fit the mission, the culture, the curriculum, and the students of each community college.

Careful preparation, consisting mostly of common-sense measures, can greatly promote the success of that development effort. A few reminders may prove helpful:

1. Inventory and evaluate current assessment activities; use successful approaches as building blocks.
2. Ensure visibility and emphasis for the assessment initiative within the larger context of the organization.
3. View assessment not as the job of a single person or office or committee but as a shared collegial responsibility.
4. At the outset, clarify assumptions underlying the assessment program: Is the objective accountability or improvement? Who/what exactly is being evaluated? How will results be used? How will results NOT be used?
5. Develop or obtain technical expertise.
6. Establish priorities; then define specific tasks and responsibilities. Conceptualize a "grand design," but be satisfied to "implement by increment."
7. Define incentives for participation, especially by students and faculty, in the development and implementation of the program—and also in the use of assessment results.
8. Keep it simple! Insist on usefulness (helping teachers teach, helping students learn) as the criterion for selecting assessment approaches.
9. Communicate, communicate, communicate. Often, resistance is heightened much more by what people don't know than by what they do know. And perhaps the most rewarding aspect of the assessment enterprise is the dialogue and debate engendered among colleagues.
10. Get started. Do not feel that nothing should be done until the research is complete and the program design is perfect, for that time will not come. At its best, assessment is a continuous learning process, for students, faculty, staff, and administrators alike!

In a society where a higher education is intensely scrutinized but also increasingly recognized as the cornerstone for developing a competitive workforce, improving the quality of life, and ensuring social justice, it will clearly no longer suffice for educators to say "just trust us." In these times, it is even not enough simply to perform well. The student, the department or program, and the community college must also be able to demonstrate and document that performance. If community colleges take that challenge seriously, the achievement of those traditional twin goals—excellence and equity—may be immeasurably enhanced.

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DAY 3

GROUP DISCUSSION AND REPORTS

Conference participants were once again divided into smaller working groups. On their last day, they were asked first to meet in groups as representatives of each institution; those institutional groupings then met with their ACT consultant. The task assigned the participants was to develop a list of factors that they deem critical to the success of their assessment project. Each critical success factor has tasks that must be accomplished in order to achieve success with the factor. Cowart briefly reviewed the concept of critical success factors and pointed out the section in a demonstration site work book where a page for each critical success factor is included. For each critical success factor, participants will *ultimately* be asked to determine the tasks that must be completed, who will be involved in the tasks, how long it will take to complete each task, resources required, and an approximate time line for accomplishing the tasks. At this point, however, participants were asked only to list critical success factors.

Roth Group

Representatives from the following colleges are included in this group:

Howard Community College
Midlands Technical College
Orangeburg-Calhoun Technical College
Technical College of the LowCountry

The first critical success factor identified by this group is the existence of *a mission statement that accurately reflects present goals and purposes.* If there is a disagreement or lack of correspondence, the mission statement should be revised, if possible, or brought into alignment with the research and assessment purposes. At a minimum, it will be necessary to articulate linkages between the mission statement and the project's mission.

The second major factor critical to the success of the project is *to formulate goals and obtain faculty/staff involvement.* This immediately raises the question: *Who should be involved?* Then: Who should *not* be involved? The consensus of the group is that no one should be excluded. Since institutional effectiveness and image of the institution are a concern of everyone, the goal is to be as inclusive as possible. There is an *appropriateness of involvement* for everyone at varying degrees of involvement, varying stages, times, and so forth. But, in order to establish ownership, everyone

should feel a part of this involvement. Thought should be devoted to how the project is presented to others on campus and how to communicate results of the project to the faculty. In particular, it is important to determine how best to communicate the results of the project to faculty. Is it appropriate to suggest ways that faculty use these results?

Other issues identified include the following:

a. Identify resources required and compare that list to the list of available resources. Where and when will help be needed?
b. Establish linkages between Project Cooperation goals and goals already existing within the institution and goals relating to external needs. Campus groups, operational services on campus, and faculty and staff will all have goals, for example, that must be linked to the goals of the project. Further, community concerns, other research projects, and grant proposals must be linked to the goals of the demonstration site project as well.
c. It will be important to establish valid administrative training experience for anyone directly involved with the project.
d. It is also critical to maintain spirit, morale, energy, and focus among students, faculty/staff, and especially among Project Cooperation participants.

What could go wrong?

- Attrition rates in the sample could be higher than expected. Even if that does happen, we cannot ignore the important information which could be obtained from the entry assessment and surveys along the way about those that we lost.
- Changes in staff—some of us may leave and go to another college. That is another reason why it is critical to have valid training for administering the project. We must be flexible and able to adjust the process.

Ulmer Group

Only one institution has Dr. Ulmer as the consultant. Representatives from this college had discussed critical success factors the previous evening and were ready to present their list. Having already dealt with the more general level of critical success factors, they felt that the next stage for them would involve the factors listed here. Their time in the group session was spent completing the work sheet for one critical success factor. First, the list of critical success factors.

1. Enhanced faculty support for outcomes assessment. It is important to move beyond philosophical commitment to action.

2. Renewed administrative support for outcomes assessment. Extend the support network.
3. Establish formal goals and objectives for general education curriculum.
4. Outline specific outcomes expectations for "exit" competency.
5. Obtain student commitment and valid participation.
6. Identify appropriate institutions and secure articulation agreements with senior institutions involved in the "predictive" or "transfer" model.
7. Evaluate and revise the advisor training program.
8. Identify current strengths and weaknesses of the institution based on long-range planning goals that already exist.
9. Develop a formal procedure to review outcomes data and implement revisions in the curriculum as needed. More systematic procedures are needed.
10. Develop and/or strengthen the retention program.
11. Develop and/or strengthen the procedure to review data on curriculum and programs and to assure feedback effectiveness.

Habley Group

The Habley group of institutions includes the following:

Chemeketa Community College
Macomb Community College
Scottsdale Community College

Their critical success factors include the following:

1. Will: Institutional commitment to a long-term assessment program.
2. A policy statement affirming the institution's support. Some documentation of the institutional commitment is needed. Since assessment is not really a mission or purpose of the institution, it is perhaps not appropriate to place the documentation of the project in a mission statement or policy statement. Perhaps a directional document on assessment is the better idea. (There was general discussion of whether this documentation is really useful at this time. Depending on the success of the project, assessment may or may not continue at any given institution. Without long-term institutional support for this type of activity, the effort of implementing the assessment system may be a waste.)
3. Positive returns on investments—not just monetary, but benefits of a public relations and positive image nature are expected too. We cannot be too detailed now because at this time we do not know the results of the project. What's in it for us? We need to identify the potential.
4. The design of the project must not impede student flow. There will be competition with existing support on an operational system, but it is important

that the process of assessing student outcomes not turn out to be something that impedes the progress of the student.

5. Resolving logistical/operational problems relevant to test administration—human, physical, financial, time, and so forth.
6. Securing people, money, and technical resources.
7. Clearly communicate the purpose to students, faculty and staff. Students need a clear understanding of the purpose. We do not want to "turn off" students in the process of assessing them. We must let students know that they cannot "flunk", but that they must do their best when taking the tests.
8. Provide feedback to participants in the project and to those aware of the project. There is a real public relations aspect to this point because it allows us to build support for continuing the assessment activities.
9. Continual attention to addressing barriers and impediments to the project.
10. Select the test modules that actually may be instrumental in sending messages to institutions about areas of importance, concern, and concentration.

Lutz Group

The final group of institutions has Dr. David Lutz as the consultant for the project. The institutions in this group include Metropolitan Community Colleges of Kansas City, the colleges of the St. Louis Community College District, and Dyersburg State Community College. The following are the ideas of representatives of those institutions on what factors are critical to the success of their outcomes assessment project.

1. Communicate within the college and to external constituencies what the assessment is about.
2. Coordinate the logistics well.
3. Determine ownership.
4. Communicate to the public the fact that extensive assessment will be done. It is also important to communicate that course placement and the like will also be involved in the process.
5. Assure useful results in a usable form.
6. Use results prudently and responsibly.
7. Utilize existing information.
8. Develop a good research design.
9. Communicate the results to students.
10. Get support and commitment from faculty, staff and administration.
11. Develop and maintain student support.
12. Proper selecting of students (employ appropriate sampling techniques).

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